AFCTN Test Report 94-036

AFCTB-ID 93-075

Technical Computer Graphics Metafile Transfer

Using:

Lotus Development Corporation's Data
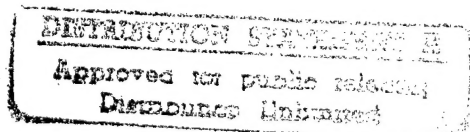
MIL-D-28003 (CGM)

Quick Short Test Report

02 August 1993

19960822 150

Prepared for

DTIC QUALITY INSPECTED 3

Electronic Systems Center

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Lotus Development Corporation's Data

MIL-D-28003 (CGM)

Quick Short Test Report

02 August 1993

Prepared By
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Contents

1. Introduction

1.1 Background

The Department of Defense (DoD) Air Force Continuous Acquisition and Life-cycle Support (CALS) Test Network (AFCTN) is conducting tests of the military standard for the Automated Interchange of Technical Information, MIL-STD-1840A, and its companion suite of military specifications. The AFCTN is a DoD sponsored confederation of voluntary participants from industry and government managed by the Electronic Systems Center (ESC).

The primary objective of the AFCTN is to evaluate the effectiveness of the CALS standards for technical data interchange and to demonstrate the technical capabilities and operational suitability of those standards. Two general categories of tests are performed to evaluate the standards; formal and informal.

Formal tests are large and comprehensive, which follow a written test plan, require specific authorization from the DoD, and may take months to prepare, execute, and report.

Informal tests are quick and short, used by the AFCTN technical staff, to broaden the testing base. They include representative samples of the many systems and applications used by AFCTN participants. They also allow the AFCTN staff to gain feedback from many industry and government interpretations of the standards, to increase the base of participation in the CALS initiative, and respond to the many requests for help that come from participants. Participants take part voluntarily, benefit by receiving an evaluation of their latest implementation (interpretation) of the standards, interact with the AFCTN technical staff, gain experience using the standards, and develop increased confidence in them. The results of informal tests are reported in Quick Short Test Reports (QSTRs) that briefly summarize the standard(s) tested, the hardware and software used, the nature of the test, and the results.

1.2 Purpose

The purpose of the informal test, reported in this QSTR, was to analyze Lotus Development Corporation's interpretation and use of the CALS standards, in transferring technical Computer Graphics Metafile (CGM) data. Lotus used its Technical Data Interchange System to produce data, in accordance with the standards, and delivered it to the AFCTN technical staff on a 3.5" disk.

2. Test Parameters

Test Plan: AFCTB 93-075

**Date of
Evaluation:**   02 August 1993

Evaluator: George Elwood
                                Air Force CALS Test Bed
                                DET 2 HQ ESC/AV-2P
                                4027 Colonel Glenn Hwy
                                Suite 300
                                Dayton OH 45431-1672

**Data
Originator:**   Steven Jackson
                                Lotus Development Corporation
                                161 First Street
                                Cambridge MA 02142-1295
                                (617) 693-8386

**Data
Description:**   Technical Manual Test
                                      4 CGM files

**Data
Source System:**

                  CGM

                        HARDWARE
                                Unknown
                        SOFTWARE
                                Lotus *Freelance v2.01*

Evaluation Tools Used:

      MIL-D-28003 (CGM)

          SUN SparcStation 2

              ArborText *cgm2draw*

              Island Graphics *IslandDraw v3.0*

              Carberry *CADLeaf Plus v3.1*

          PC 486/50

              Advance Technology Center
                    (ATC) *MetaView R 1.12*

              ATC *MetaCheck R 2.05*

              Software Publishing Corporation
                    (SPC) *Harvard Graphics v3.05*

              Inset Systems *HiJaak v1.0 Windows Pro*

              Lotus *Freelance v2.01*

              Micrografx *Designer v3.1*

              Corel *Ventura Publisher*

**Standards
Tested:**

      MIL-D-28003

3. 1840A Analysis

3.1 External Packaging

The 3.5" disk arrived at the Air Force CALS Test Bed (AFCTB) enclosed in a commercial overnight mailing envelop. The exterior of the envelop was not marked with a magnetic media warning label, as required by MIL-STD-1840A, para. 5.3.1.3.

The 3.5" disk was not enclosed in a barrier bag or barrier sheet material, as required by MIL-STD-1840A, para. 5.3.1.2. A packing list, showing all files recorded on the disk, was not enclosed in the envelop.

3.2 Transmission Envelope

The 3.5" disk received by the AFCTB did not contained MIL-STD-1840A files. The files were not named per the standard conventions.

3.2.1 Tape Formats

Not evaluated.

3.2.2 Declaration and Header Fields

No Document Declaration file nor CALS headers were provided on this 3.5" disk. This was an initial test and, per agreement between Lotus Development Corporation and the AFCTB, none were expected.

4. IGES Analysis

No Initial Graphics Exchange Specification (IGES) files were included on the 3.5" disk.

5. SGML Analysis

No Standard Generalized Markup Language (SGML) files were included on the 3.5" disk.

6. Raster Analysis

No Raster files were included on the 3.5" disk.

7. CGM Analysis

The 3.5" disk contained four CGM files. The files were evaluated using ATC's *MetaCheck* with CALS options. This software utility reported all four files did not meet the basic CGM standards, nor the CALS MIL-D-28003 specification. The complete error logs are provided in Appendix A of this report.

The CGM files were evaluated using the beta AFCTN *validcgm* utility. This program reported many errors is all four files. Condensed log files are provided in Appendix A of this report.

The AFCTB has several tools for viewing CGM files. These tools are not used to generate a pass/fail but to report how commercially available software can handle the files. Many of these products are used in the development of technical publications and are good indicators of usability. The use of these products is not an endorsement nor and indication of CALS capability. All operations were performed using the default settings.

The CGM files were converted using ArborText's *cgm2draw* utility without a reported error. The resulting files were read into Island Graphics' *IslandDraw*, displayed and printed. Errors were noted in text overflow, in files OK-TEXT and OK-STYLE. The word "Times" was appended on most lines of the text.

The files were viewed using ATC's *MetaView* software. Errors were noted in the text font area.

The files were read into Carberry's *CADLeaf* software and displayed. No errors were reported on the first two files. Files three and four started to display and then the system reset to the prompt with a major error code "BadPixCode" noted. Text overflow was noted in the two files which displayed and printed.

The files were imported into Lotus' *Freelance* without a reported error. On the text font chart, all fonts displayed on the screen. When the chart was output most of the text was not printed.

The files were read into Inset Systems' *HiJaak for Windows* without a reported error. On the font chart some of the text did not display or print. Text overflow was noted in the third chart.

The files were imported directly into Island Graphics' *IslandDraw* without a reported error. No text overflow was noted in any file. Dig Bats fonts style was noted on the text chart. This was not present in any of the other images.

The files were imported into the Micrografx *Designer* without a reported error. All charts were shown to flow onto two pages in the system. The fonts, on the font chart, appeared to be the same except for size when displayed and printed. No text overflow was noted.

The files were imported into SPC's *Harvard Graphics v3.05* with reported line style errors in all but the text chart. Text overflow was noted in all charts except the sample pie, line, and bar charts.

The files were imported into Corel's *Ventura Publisher* without a reported error. File three did not have the rotated text. File four did not have a box around the text in the upper left corner.

The four files provide by Lotus Development Corporation did not meet the CALS MIL-D-28003 specification.

8. Conclusions and Recommendations

In summary, the 3.5" disk from Lotus Development Corporation was not submitted in CALS format. The stated goal of the evaluation was for the data files only, per agreement between the AFCTB and Lotus.

The 3.5" disk contained four CGM files. While the files imported into various software products, available in the AFCTB, they did not meet the CALS MIL-D-28003 specification.

9. Appendix A - Detailed CGM Analysis

9.1 File One

9.1.1 Parser Log MetaCheck

```
MetaCheck Version 2.05 -- CGM/MIL-D-28003 Conformance Analyzer
Copyright 1988-91 CGM Technology Software
Execution Date: 07/31/93    Time:  12:16:26

Metafile Examined    : i:\9375\ok-ch1.cgm

Pictures Examined    : All
Elements Examined    : All
Bytes    Examined    : All


======================= Trace Report =========================

Tracing not selected.

============= CGM Conformance Violation Report ==============

Error 4002: Element Class/ID: 0/3   Offset: 320 octets Element No. 14
Required element, METAFILE ELEMENT LIST, is missing.

Bulletin 20029: Element Class/ID: 2/1   Offset: 332 octets Element No. 15
The Metric Scaling Factor, although unused, should be coded
as a floating point value.

Error 4011: Element Class/ID: 0/2   Offset: 14720 octets Element No. 892
The following elements appear in this CGM and should be indicated in the
METAFILE ELEMENT LIST:
    METAFILE DESCRIPTION
    VDC TYPE
    INTEGER PRECISION
    REAL PRECISION
    INDEX PRECISION
    COLOUR PRECISION
    COLOUR INDEX PRECISION
    MAXIMUM COLOUR INDEX
    COLOUR VALUE EXTENT
    FONT LIST
    SCALING MODE
    COLOUR SELECTION MODE
```

LINE WIDTH SPECIFICATION MODE
MARKER SIZE SPECIFICATION MODE
EDGE WIDTH SPECIFICATION MODE
VDC EXTENT
TRANSPARENCY
POLYLINE
POLYMARKER
TEXT
POLYGON
RECTANGLE
LINE TYPE
LINE WIDTH
LINE COLOUR
MARKER TYPE
MARKER SIZE
MARKER COLOUR
TEXT FONT INDEX
TEXT COLOUR
CHARACTER HEIGHT
CHARACTER ORIENTATION
TEXT ALIGNMENT
INTERIOR STYLE
FILL COLOUR
EDGE TYPE
EDGE WIDTH
EDGE COLOUR
EDGE VISIBILITY
COLOUR TABLE
APPLICATION DATA

========== CALS CGM Profile (MIL-D-28003) Report ============

Error 6508: Element Class/ID: 1/13   Offset: 14 octets Element No. 2
The FONT LIST element is invalid; it may not contain
more than 4 font names.

Error 6509: Element Class/ID: 1/13   Offset: 14 octets Element No. 2
Invalid list parameters; each of the Font Names in the FONT LIST element
must be among the Font Names allowed by the Profile.

Error 6501: Element Class/ID: 1/2   Offset: 238 octets Element No. 4
The METAFILE DESCRIPTION string is invalid; it lacks the phrase
"MIL-D-28003/BASIC-1" required by the Profile.

Error 8511: Element Class/ID: 5/34   Offset: 368 octets Element No. 22
Too many color table entry specifications; no more than
256 color table entries may be specified.

Error 6515: Element Class/ID: 3/4   Offset: 1140 octets Element No. 23
The Transparency Indicator is invalid; it must be 1 (on).

Error 6517: Element Class/ID: 5/2   Offset: 7712 octets Element No. 321
The Line Type is invalid; it must either have a value between 1 and 5
(values allowed by the CGM standard) or have a value between -11301 and
-11310 (values allowed by the Profile).

Error 6517: Element Class/ID: 5/2   Offset: 9862 octets Element No. 472
The Line Type is invalid; it must either have a value between 1 and 5
(values allowed by the CGM standard) or have a value between -11301 and
-11310 (values allowed by the Profile).

Error 6519: Element Class/ID: 5/6   Offset: 10596 octets Element No. 533
The Marker Type is invalid; it must have a value between 1 and 5.

Error 6519: Element Class/ID: 5/6   Offset: 11602 octets Element No. 620
The Marker Type is invalid; it must have a value between 1 and 5.

Error 6517: Element Class/ID: 5/2   Offset: 11878 octets Element No. 649
The Line Type is invalid; it must either have a value between 1 and 5
(values allowed by the CGM standard) or have a value between -11301 and
-11310 (values allowed by the Profile).

Error 6517: Element Class/ID: 5/2   Offset: 12320 octets Element No. 677
The Line Type is invalid; it must either have a value between 1 and 5
(values allowed by the CGM standard) or have a value between -11301 and
-11310 (values allowed by the Profile).

Error 6519: Element Class/ID: 5/6   Offset: 12534 octets Element No. 686
The Marker Type is invalid; it must have a value between 1 and 5.

Error 6519: Element Class/ID: 5/6   Offset: 12772 octets Element No. 699
The Marker Type is invalid; it must have a value between 1 and 5.

================ Conformance Summary Report =================

MetaCheck Version 2.05 -- CGM/MIL-D-28003 Conformance Analyzer
Copyright 1988-91 CGM Technology Software
Execution Date: 07/31/93   Time: 12:16:30

Name of CGM under test: i:\9375\ok-ch1.cgm
Encoding   : Binary

Pictures Examined   : All
Elements Examined   : All

Bytes   Examined   : All

BEGIN METAFILE string : "OK-CH1.CGM"
METAFILE DESCRIPTION : "Freelance Metafile Version 2.1"

Picture 1 starts at octet offset 320; string contains: "PICTURE 1"

Application data elements encountered in CGM
Private values encountered in CGM

Conformance Summary : This file is not a conforming CGM.

                        Consequently, it does not meet the
                        CALS CGM Profile (MIL-D-28003).

Summary of Testing Performed and Errors Found:

        1 Pictures Tested
      892 Elements Tested
    14722 Octets Tested

       0 Illegal CGM Elements   1000 -   1999
       0 Incorrect CGM Element Lengths   2000 -   2999
       0 CGM State Errors   3000 -   3499
       2 Required CGM Elements Missing or Wrong 4000 -   4499
       0 CGM Parameter Values Out of Range   6000 -   6499
       0 CGM Structure Errors   7000 -   7499
       2   ***   CGM Errors Found (total)   ***

       0 Profile State Errors   3500 -   3999
       0 Illegal Profile Elements   4500 -   4999
      12 Profile Parameter Values Out of Range   6500 -   6999
       1 Profile Data Limits Exceeded   8500 -   8999
       0 Other Profile Constraints Violated   9500 -   9999
      13   *** Profile Violations Found (total) ***

       1 Warnings (Advisory Remarks)   20000 - 20999

      10 distinct errors and warnings were reported.

================ End of Conformance Report ==================

9.1.2   validcgm Log

```
Analysis for file ok-ch1.cgm using table table
MILSPEC 28003 error: more than 4 fonts
MILSPEC 28003 error: illegal font name  Arial MT
MILSPEC 28003 error: illegal font name  Arial MT Bold
MILSPEC 28003 error: illegal font name  Arial MT Italic
MILSPEC 28003 error: illegal font name  Arial MT Bold Italic
MILSPEC 28003 error: illegal font name  TimesNewRomanPS
MILSPEC 28003 error: illegal font name  TimesNewRomanPS Bold
MILSPEC 28003 error: illegal font name  TimesNewRomanPS Italic
MILSPEC 28003 error: illegal font name  TimesNewRomanPS Bold Italic
MILSPEC 28003 error: illegal font name  BrushScript
MILSPEC 28003 error: illegal font name  GillSans
 (2, 14)            (1, 13, 216)     Font List
                                     "Arial MT"
                                     "Arial MT Bold"
                                     "Arial MT Italic"
                                     "Arial MT Bold Italic"
                                     "TimesNewRomanPS"
                                     "TimesNewRomanPS Bold"
                                     "TimesNewRomanPS Italic"
                                     "TimesNewRomanPS Bold Italic"
                                     "BrushScript"
                                     "GillSans"
MILSPEC 28003 error: descriptor doesn't contain MIL-D-28003/BASIC-1
 (4, 238)           (1, 2, 32)      Metafile Description "Freelance Metafile
Version 2.1"
MILSPEC 28003 error: illegal color table
more colour entries than max. color index
 (22, 368)          (5, 34, 768)    Colour Table begin 1, 255 entries
                                     (49, 37, 30)
                                     (63, 38, 32)
                                     (50, 38, 6)
                                     (50, 50, 24)
                                     (24, 38, 12)
                                     (23, 38, 24)

              <<<<< PART OF LOG FILE REMOVED HERE >>>>>

                                     (90, 87, 100)
                                     (94, 87, 100)
                                     (100, 87, 100)
                                     (100, 87, 96)
                                     (100, 87, 90)
MILSPEC 28003 error: transparency not on
```

```
(23, 1140)        (3, 4, 2)       Transparency OFF
MILSPEC 28003 error: illegal line type
(321, 7712)       (5, 2, 2)       Line Type unknown: -1
MILSPEC 28003 error: illegal line type
(472, 9862)       (5, 2, 2)       Line Type unknown: -1
MILSPEC 28003 error: illegal marker type
(533, 10596)      (5, 6, 2)       Marker Type -1
MILSPEC 28003 error: illegal marker type
(620, 11602)      (5, 6, 2)       Marker Type -9
MILSPEC 28003 error: illegal line type
(649, 11878)      (5, 2, 2)       Line Type unknown: -1
MILSPEC 28003 error: illegal line type
(677, 12320)      (5, 2, 2)       Line Type unknown: -1
MILSPEC 28003 error: illegal marker type
(686, 12534)      (5, 6, 2)       Marker Type -1
MILSPEC 28003 error: illegal marker type
(699, 12772)      (5, 6, 2)       Marker Type -9
(0, 1) occurred 1 time
(0, 1) was not in the element list
(0, 2) occurred 1 time
(0, 2) was not in the element list
(0, 3) occurred 1 time
(0, 3) was not in the element list
(0, 4) occurred 1 time
(0, 4) was not in the element list
(0, 5) occurred 1 time
(0, 5) was not in the element list
(1, 1) occurred 1 time
(1, 1) was not in the element list
(1, 2) occurred 1 time
(1, 2) was not in the element list
(1, 3) occurred 1 time
(1, 3) was not in the element list
(1, 4) occurred 1 time
(1, 4) was not in the element list
(1, 5) occurred 1 time
(1, 5) was not in the element list
(1, 6) occurred 1 time
(1, 6) was not in the element list
(1, 7) occurred 1 time
(1, 7) was not in the element list
(1, 8) occurred 1 time
(1, 8) was not in the element list
(1, 9) occurred 1 time
(1, 9) was not in the element list
(1, 10) occurred 1 time
(1, 10) was not in the element list
```

(1, 11) never occurred, required by standard B
(1, 13) occurred 1 time
(1, 13) was not in the element list
(2, 1) occurred 1 time
(2, 1) was not in the element list
(2, 2) occurred 1 time
(2, 2) was not in the element list
(2, 3) occurred 1 time
(2, 3) was not in the element list
(2, 4) occurred 1 time
(2, 4) was not in the element list
(2, 5) occurred 1 time
(2, 5) was not in the element list
(2, 6) occurred 1 time
(2, 6) was not in the element list
(2, 7) never occurred, required by standard B
(3, 4) occurred 2 times
(3, 4) was not in the element list
(4, 1) occurred 359 times
(4, 1) was not in the element list
(4, 3) occurred 8 times
(4, 3) was not in the element list
(4, 4) occurred 132 times
(4, 4) was not in the element list
(4, 7) occurred 99 times
(4, 7) was not in the element list
(4, 11) occurred 35 times
(4, 11) was not in the element list
(5, 2) occurred 15 times
(5, 2) was not in the element list
(5, 3) occurred 6 times
(5, 3) was not in the element list
(5, 4) occurred 17 times
(5, 4) was not in the element list
(5, 6) occurred 8 times
(5, 6) was not in the element list
(5, 7) occurred 4 times
(5, 7) was not in the element list
(5, 8) occurred 8 times
(5, 8) was not in the element list
(5, 10) occurred 18 times
(5, 10) was not in the element list
(5, 14) occurred 27 times
(5, 14) was not in the element list
(5, 15) occurred 26 times
(5, 15) was not in the element list
(5, 16) occurred 1 time

```
(5, 16) was not in the element list
(5, 18) occurred 1 time
(5, 18) was not in the element list
(5, 22) occurred 9 times
(5, 22) was not in the element list
(5, 23) occurred 53 times
(5, 23) was not in the element list
(5, 27) occurred 5 times
(5, 27) was not in the element list
(5, 28) occurred 10 times
(5, 28) was not in the element list
(5, 29) occurred 20 times
(5, 29) was not in the element list
(5, 30) occurred 5 times
(5, 30) was not in the element list
(5, 34) occurred 1 time
(5, 34) was not in the element list
(7, 2) occurred 1 time
(7, 2) was not in the element list
```
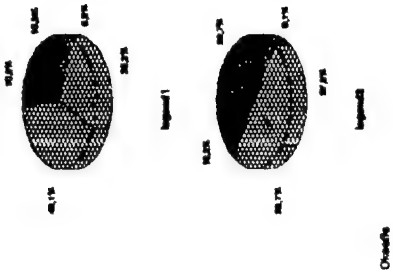
9.1.3 Cadleaf
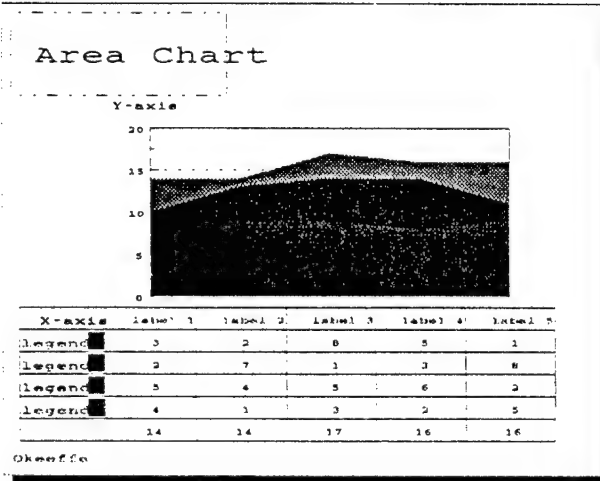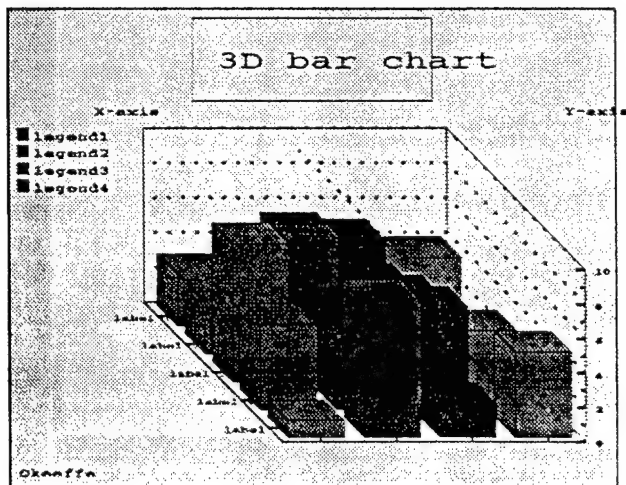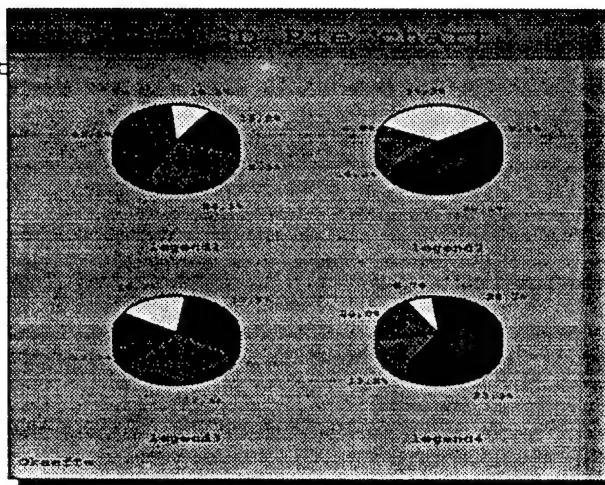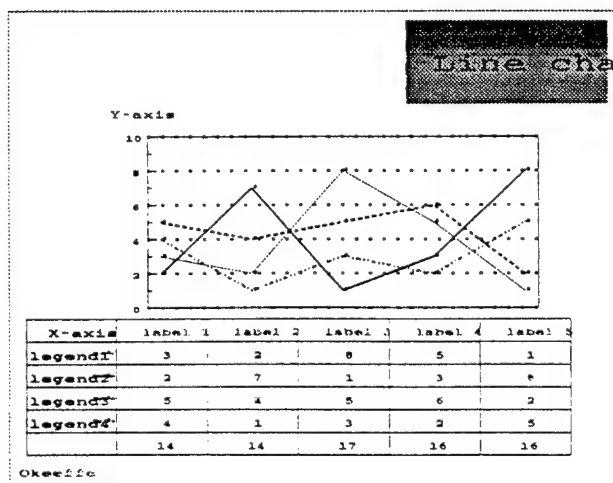
9.1.4 Designer

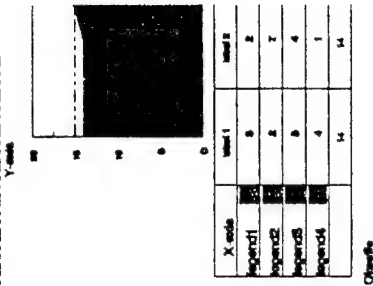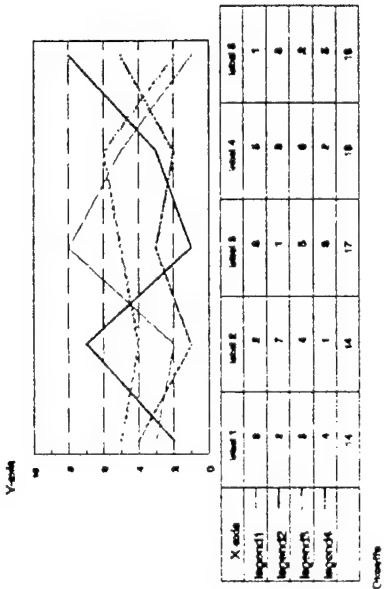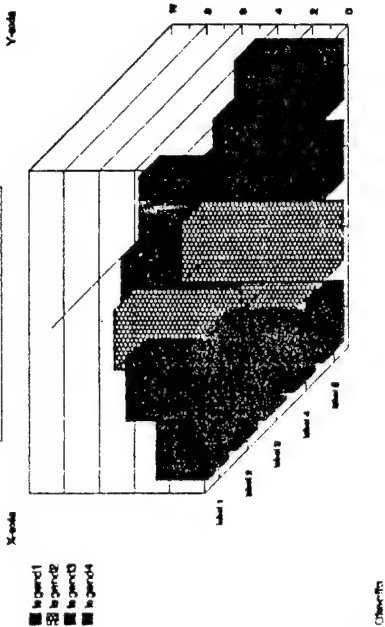## 9.1.5 Output Freelance
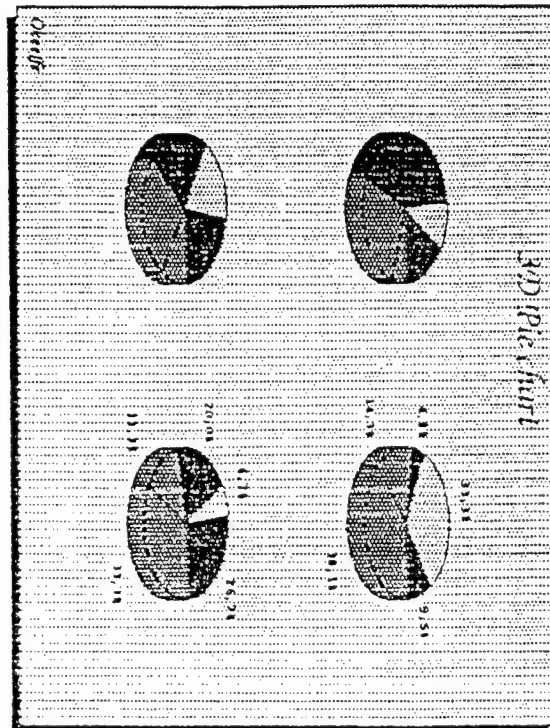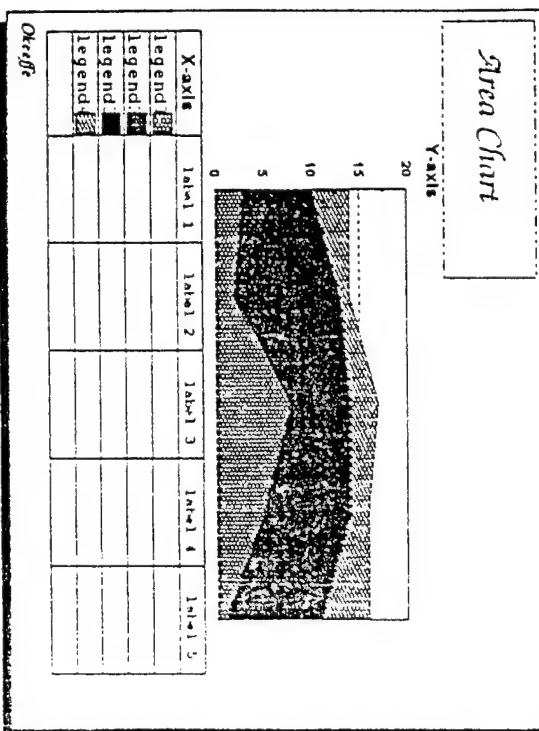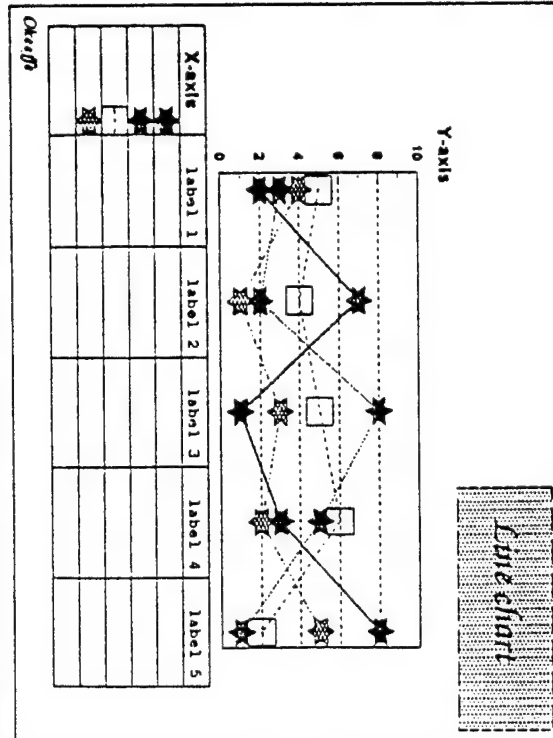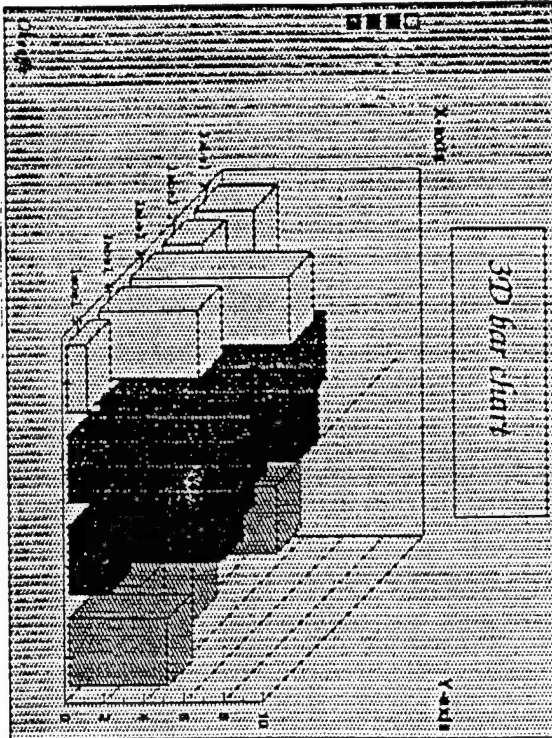
9.1.6 Output Harvard Graphics
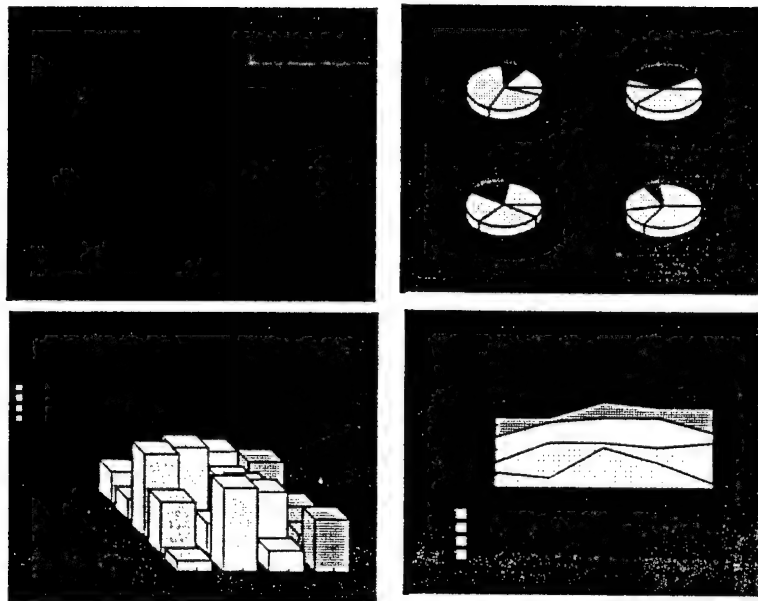
9.1.7 Output HiJaak for Windows
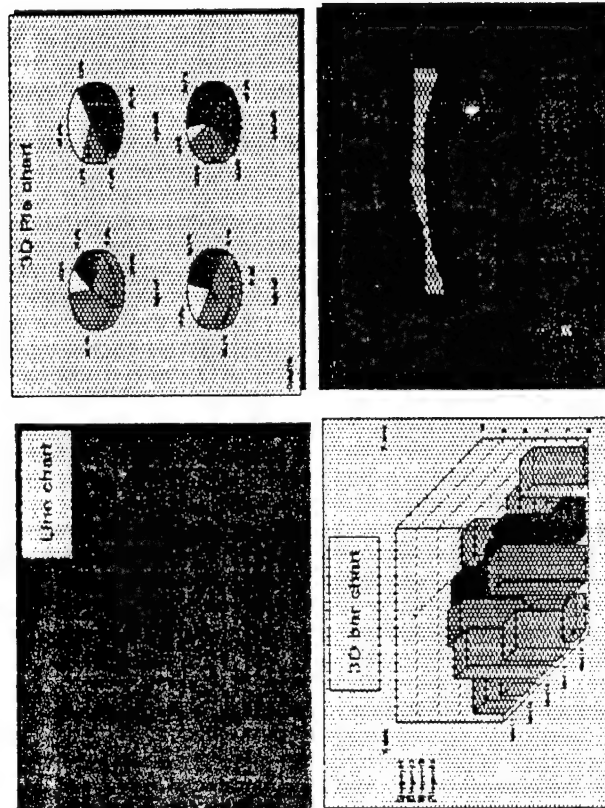
9.1.8 Output cgm2draw/IslandDraw
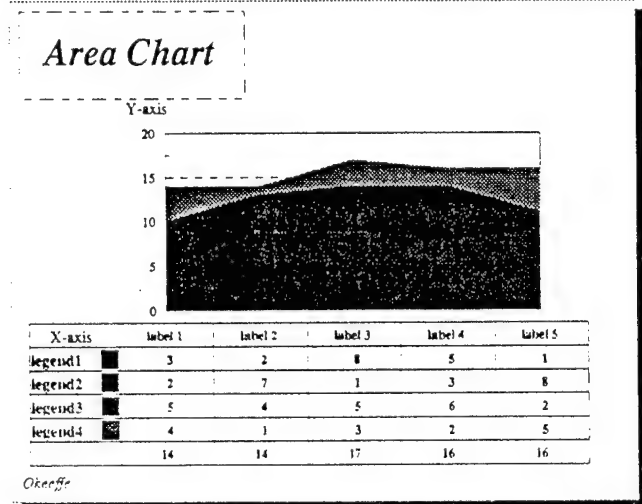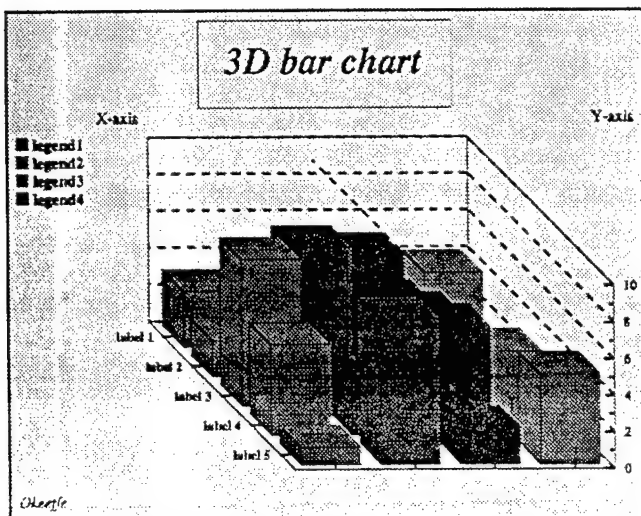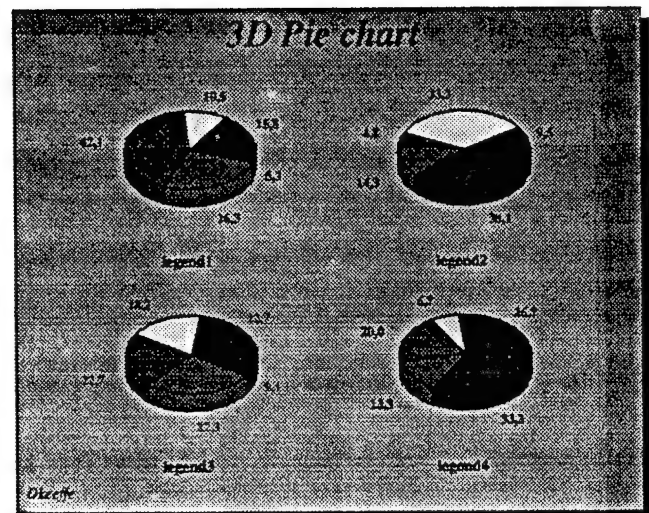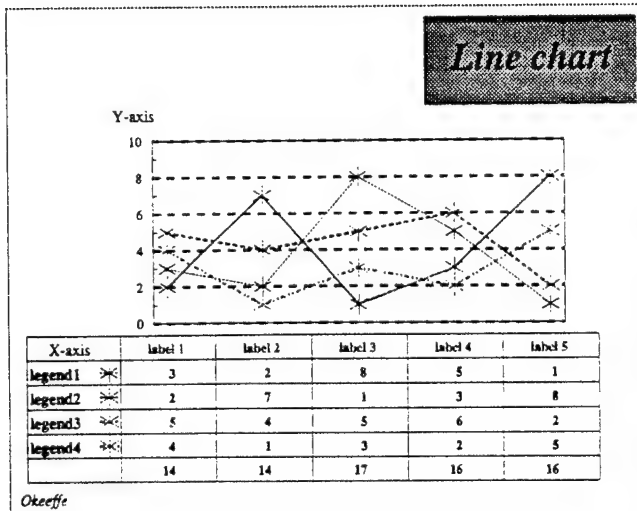
9.1.9 Output IslandDraw

9.1.10   Output Ventura Publisher

Line chart

3D Pie chart

3D bar chart

Area Chart
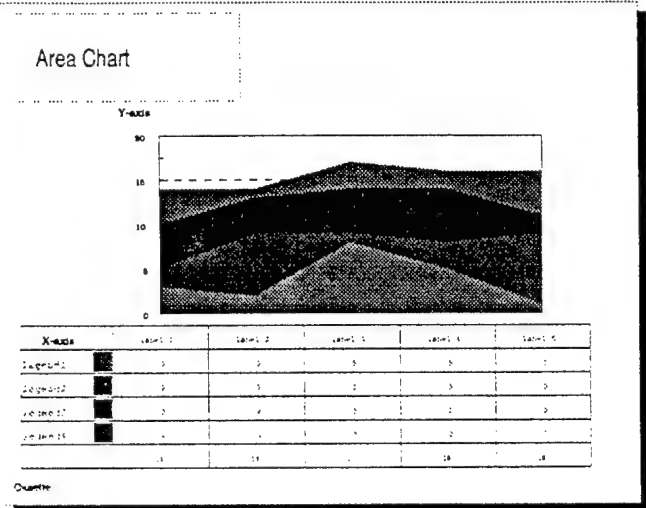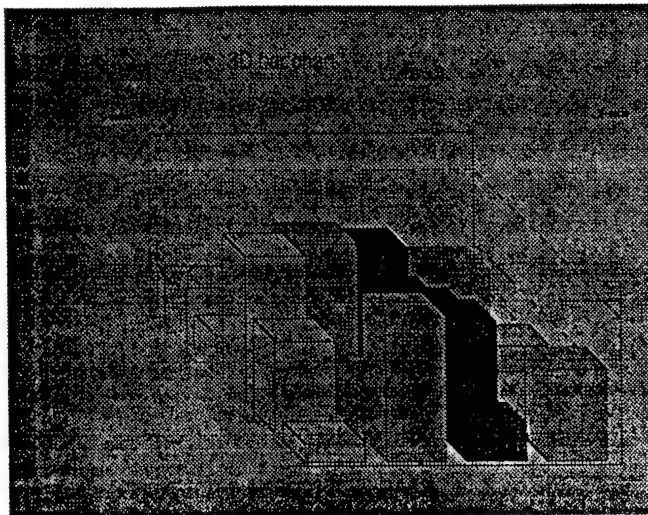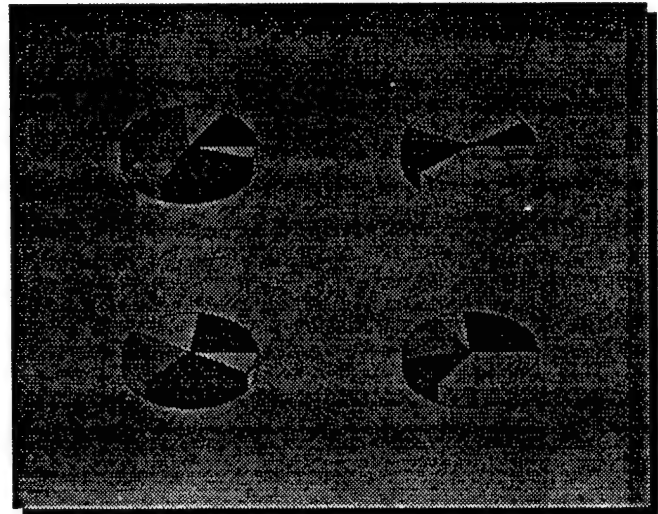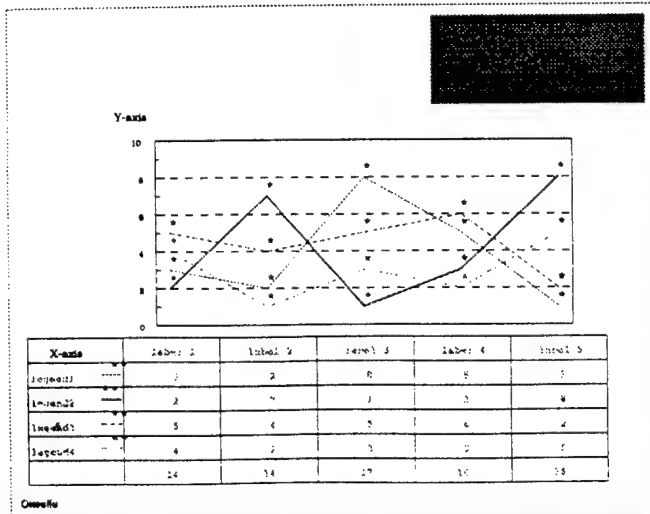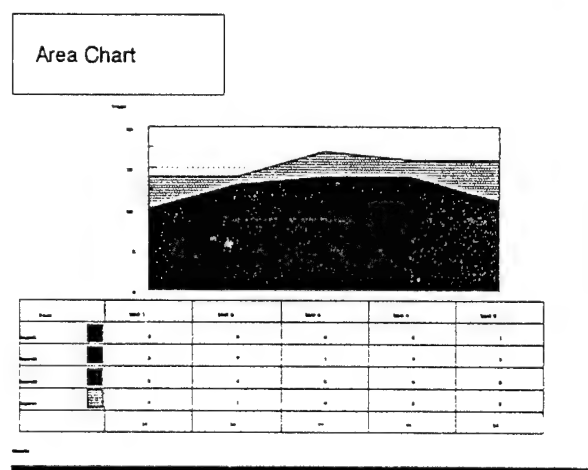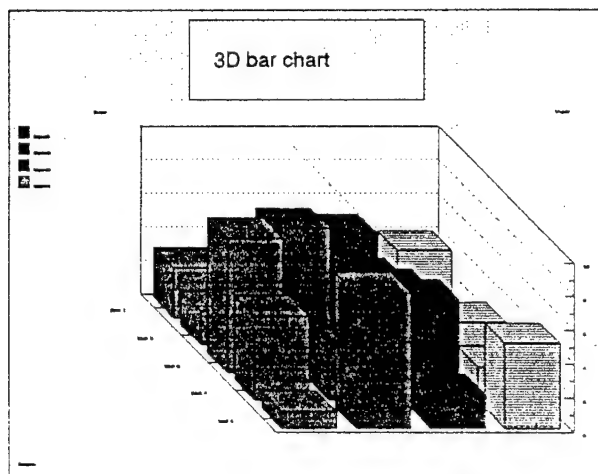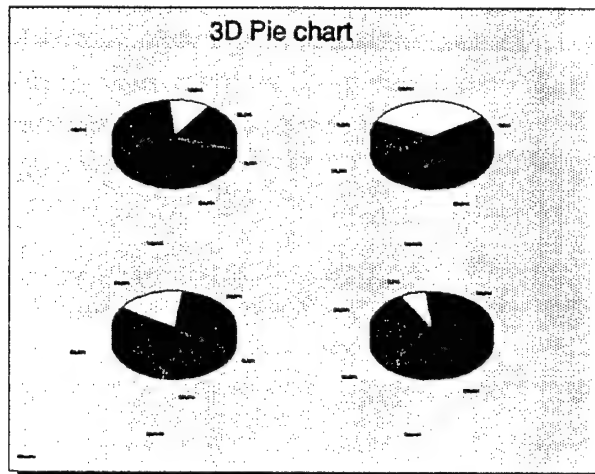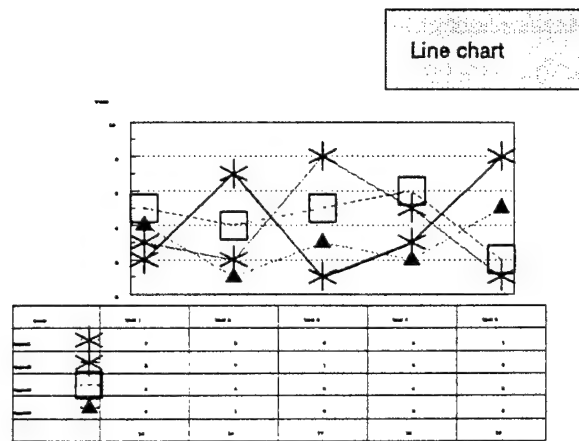
9.2 File Two

9.2.1 Parser Log MetaCheck

MetaCheck Version 2.05 -- CGM/MIL-D-28003 Conformance Analyzer
Copyright 1988-91 CGM Technology Software
Execution Date: 07/31/93   Time: 12:16:57

Metafile Examined   : i:\9375\ok-font.cgm

Pictures Examined   : All
Elements Examined   : All
Bytes   Examined   : All

======================= Trace Report =========================

Tracing not selected.

============= CGM Conformance Violation Report ==============

Error 4002: Element Class/ID: 0/3   Offset: 320 octets Element No. 14
Required element, METAFILE ELEMENT LIST, is missing.

Bulletin 20029: Element Class/ID: 2/1   Offset: 332 octets Element No. 15
The Metric Scaling Factor, although unused, should be coded
as a floating point value.

Error 4011: Element Class/ID: 0/2   Offset: 2016 octets Element No. 95
The following elements appear in this CGM and should be indicated in the
METAFILE ELEMENT LIST:
    METAFILE DESCRIPTION
    VDC TYPE
    INTEGER PRECISION
    REAL PRECISION
    INDEX PRECISION
    COLOUR PRECISION
    COLOUR INDEX PRECISION
    MAXIMUM COLOUR INDEX
    COLOUR VALUE EXTENT
    FONT LIST
    SCALING MODE
    COLOUR SELECTION MODE
    LINE WIDTH SPECIFICATION MODE
    MARKER SIZE SPECIFICATION MODE
    EDGE WIDTH SPECIFICATION MODE

VDC EXTENT
TRANSPARENCY
TEXT
RECTANGLE
TEXT FONT INDEX
TEXT COLOUR
CHARACTER HEIGHT
CHARACTER ORIENTATION
TEXT ALIGNMENT
INTERIOR STYLE
FILL COLOUR
EDGE TYPE
EDGE WIDTH
EDGE COLOUR
EDGE VISIBILITY
COLOUR TABLE
APPLICATION DATA

========== CALS CGM Profile (MIL-D-28003) Report ============

Error 6508: Element Class/ID: 1/13   Offset: 14 octets Element No. 2
The FONT LIST element is invalid; it may not contain
more than 4 font names.

Error 6509: Element Class/ID: 1/13   Offset: 14 octets Element No. 2
Invalid list parameters; each of the Font Names in the FONT LIST element
must be among the Font Names allowed by the Profile.

Error 6501: Element Class/ID: 1/2   Offset: 238 octets Element No. 4
The METAFILE DESCRIPTION string is invalid; it lacks the phrase
"MIL-D-28003/BASIC-1" required by the Profile.

Error 8511: Element Class/ID: 5/34   Offset: 368 octets Element No. 22
Too many color table entry specifications; no more than
256 color table entries may be specified.

Error 6515: Element Class/ID: 3/4   Offset: 1140 octets Element No. 23
The Transparency Indicator is invalid; it must be 1 (on).

Error 6521: Element Class/ID: 5/10   Offset: 1232 octets Element No. 31
The Text Font Index value is invalid; it must not exceed 4.

Error 6521: Element Class/ID: 5/10   Offset: 1486 octets Element No. 49
The Text Font Index value is invalid; it must not exceed 4.

Error 6521: Element Class/ID: 5/10   Offset: 1598 octets Element No. 57
The Text Font Index value is invalid; it must not exceed 4.

Error 6521: Element Class/ID: 5/10   Offset: 1672 octets Element No. 62
The Text Font Index value is invalid; it must not exceed 4.

Error 6521: Element Class/ID: 5/10   Offset: 1734 octets Element No. 66
The Text Font Index value is invalid; it must not exceed 4.

Error 6521: Element Class/ID: 5/10   Offset: 1834 octets Element No. 75
The Text Font Index value is invalid; it must not exceed 4.

Error 6521: Element Class/ID: 5/10   Offset: 1942 octets Element No. 83
The Text Font Index value is invalid; it must not exceed 4.

================ Conformance Summary Report =================

MetaCheck Version 2.05 -- CGM/MIL-D-28003 Conformance Analyzer
Copyright 1988-91 CGM Technology Software
Execution Date: 07/31/93   Time: 12:16:59

Name of CGM under test: i:\9375\ok-font.cgm
Encoding   : Binary

Pictures Examined   : All
Elements Examined   : All
Bytes   Examined   : All

BEGIN METAFILE string : "OK-FONT.CGM"
METAFILE DESCRIPTION : "Freelance Metafile Version 2.1"

Picture 1 starts at octet offset 320; string contains: "PICTURE 1"

Application data elements encountered in CGM

Conformance Summary : This file is not a conforming CGM.

                        Consequently, it does not meet the
                        CALS CGM Profile (MIL-D-28003).

Summary of Testing Performed and Errors Found:

        1 Pictures Tested
       95 Elements Tested
     2018 Octets Tested

     0 Illegal CGM Elements   1000 -   1999
     0 Incorrect CGM Element Lengths   2000 -   2999
     0 CGM State Errors   3000 -   3499

```
 2 Required CGM Elements Missing or Wrong   4000 -   4499
 0 CGM Parameter Values Out of Range        6000 -   6499
 0 CGM Structure Errors                     7000 -   7499
 2     ***      CGM Errors Found (total)    ***

 0 Profile State Errors                     3500 -   3999
 0 Illegal Profile Elements                 4500 -   4999
11 Profile Parameter Values Out of Range    6500 -   6999
 1 Profile Data Limits Exceeded             8500 -   8999
 0 Other Profile Constraints Violated       9500 -   9999
12     *** Profile Violations Found (total) ***

 1 Warnings (Advisory Remarks)              20000 - 20999
```

    9 distinct errors and warnings were reported.

================ End of Conformance Report ==================

9.2.2   validcgm Log

```
Analysis for file ok-font.cgm using table table
MILSPEC 28003 error: more than 4 fonts
MILSPEC 28003 error: illegal font name  Arial MT
MILSPEC 28003 error: illegal font name  Arial MT Bold
MILSPEC 28003 error: illegal font name  Arial MT Italic
MILSPEC 28003 error: illegal font name  Arial MT Bold Italic
MILSPEC 28003 error: illegal font name  TimesNewRomanPS
MILSPEC 28003 error: illegal font name  TimesNewRomanPS Bold
MILSPEC 28003 error: illegal font name  TimesNewRomanPS Italic
MILSPEC 28003 error: illegal font name  TimesNewRomanPS Bold Italic
MILSPEC 28003 error: illegal font name  BrushScript
MILSPEC 28003 error: illegal font name  GillSans
 (2, 14)            (1, 13, 216)    Font List
                                    "Arial MT"
                                    "Arial MT Bold"
                                    "Arial MT Italic"
                                    "Arial MT Bold Italic"
                                    "TimesNewRomanPS"
                                    "TimesNewRomanPS Bold"
                                    "TimesNewRomanPS Italic"
                                    "TimesNewRomanPS Bold Italic"
                                    "BrushScript"
                                    "GillSans"
MILSPEC 28003 error: descriptor doesn't contain MIL-D-28003/BASIC-1
 (4, 238)           (1, 2, 32)      Metafile Description "Freelance Metafile
Version 2.1"
MILSPEC 28003 error: illegal color table
more colour entries than max. color index
 (22, 368)          (5, 34, 768)    Colour Table begin 1, 255 entries
                                    (49, 37, 30)
                                    (63, 38, 32)
                                    (50, 38, 6)
                                    (50, 50, 24)
                                    (24, 38, 12)
                                    (23, 38, 24)
                                    (21, 37, 36)

                 <<<<< PART OF LOG FILE REMOVED HERE >>>>>

                                    (94, 87, 100)
                                    (100, 87, 100)
                                    (100, 87, 96)
                                    (100, 87, 90)
MILSPEC 28003 error: transparency not on
```

```
(23, 1140)       (3, 4, 2)      Transparency OFF
MILSPEC 28003 error: illegal text font index
(31, 1232)       (5, 10, 2)     Text Font Index 9
MILSPEC 28003 error: illegal text font index
(49, 1486)       (5, 10, 2)     Text Font Index 13
MILSPEC 28003 error: illegal text font index
(57, 1598)       (5, 10, 2)     Text Font Index 11
MILSPEC 28003 error: illegal text font index
(62, 1672)       (5, 10, 2)     Text Font Index 12
MILSPEC 28003 error: illegal text font index
(66, 1734)       (5, 10, 2)     Text Font Index 14
MILSPEC 28003 error: illegal text font index
(75, 1834)       (5, 10, 2)     Text Font Index 6
MILSPEC 28003 error: illegal text font index
(83, 1942)       (5, 10, 2)     Text Font Index 10
(0, 1) occurred 1 time
(0, 1) was not in the element list
(0, 2) occurred 1 time
(0, 2) was not in the element list
(0, 3) occurred 1 time
(0, 3) was not in the element list
(0, 4) occurred 1 time
(0, 4) was not in the element list
(0, 5) occurred 1 time
(0, 5) was not in the element list
(1, 1) occurred 1 time
(1, 1) was not in the element list
(1, 2) occurred 1 time
(1, 2) was not in the element list
(1, 3) occurred 1 time
(1, 3) was not in the element list
(1, 4) occurred 1 time
(1, 4) was not in the element list
(1, 5) occurred 1 time
(1, 5) was not in the element list
(1, 6) occurred 1 time
(1, 6) was not in the element list
(1, 7) occurred 1 time
(1, 7) was not in the element list
(1, 8) occurred 1 time
(1, 8) was not in the element list
(1, 9) occurred 1 time
(1, 9) was not in the element list
(1, 10) occurred 1 time
(1, 10) was not in the element list
(1, 11) never occurred, required by standard B
(1, 13) occurred 1 time
```

```
(1, 13) was not in the element list
(2, 1)  occurred 1 time
(2, 1)  was not in the element list
(2, 2)  occurred 1 time
(2, 2)  was not in the element list
(2, 3)  occurred 1 time
(2, 3)  was not in the element list
(2, 4)  occurred 1 time
(2, 4)  was not in the element list
(2, 5)  occurred 1 time
(2, 5)  was not in the element list
(2, 6)  occurred 1 time
(2, 6)  was not in the element list
(2, 7)  never occurred, required by standard B
(3, 4)  occurred 2 times
(3, 4)  was not in the element list
(4, 4)  occurred 19 times
(4, 4)  was not in the element list
(4, 11) occurred 1 time
(4, 11) was not in the element list
(5, 10) occurred 13 times
(5, 10) was not in the element list
(5, 14) occurred 14 times
(5, 14) was not in the element list
(5, 15) occurred 14 times
(5, 15) was not in the element list
(5, 16) occurred 1 time
(5, 16) was not in the element list
(5, 18) occurred 1 time
(5, 18) was not in the element list
(5, 22) occurred 1 time
(5, 22) was not in the element list
(5, 23) occurred 1 time
(5, 23) was not in the element list
(5, 27) occurred 1 time
(5, 27) was not in the element list
(5, 28) occurred 1 time
(5, 28) was not in the element list
(5, 29) occurred 1 time
(5, 29) was not in the element list
(5, 30) occurred 1 time
(5, 30) was not in the element list
(5, 34) occurred 1 time
(5, 34) was not in the element list
(7, 2)  occurred 1 time
(7, 2)  was not in the element list
```

9.2.3 Output Cadleaf

Okeeffe all fonts

Arial MT 24 points blue bold & i

Brush Script 18 points red bold

Helvetica 36 points Yel
strikeout wrdwarp

Courier New 48
pts purple italic

Perpetua 10 pts gold bolld

Freestyle 14 points green
underline

Time New roman 20 pts light blue

LetterGothic 16 pts light Symbol 15 yellow bold
grn strikeout

NewsGothic 8 pts dark blue bold italic

Utopic Black 48
undlne

Times Rmn 12, black bold italic

Times 24, cyan bold underli)

9.2.4 Output Designer

Okeeffe all fonts

Arial MT 24 points blue bold & italic

Brush Script 18 points red bold

Helvetica 36 points Yel
strikeout wrdwarp

Courier New 48
pts purple italic

Freestyle 14 points green
underline

Perpetua 10 pts odd bold

Time New roman 20 pts light blue normal

Symbol 15 yellow bold

LetterGothic 16 pts light
gm strikeout

Utopic Black 48 red
undline

Times Rmn 12, black bold italic

Times 24, cyan bold underline

9.2.6 Output Harvard Graphics

```
Okeeffe all fonts

   Arial MT 24 points blue bold & italic

    Brush Script 18 points red bold

Helvetica 36 points Yel
strikeout wrdwarp
Courier New 48
pts purple italic
                         Freestyle 14 points green
   Perpetua 10 pts gold bold    underline

        Time New roman 20 pts light blue normal

   LetterGothic 16 pts light       Symbol 15 yellow bold
   grn strikeout
                      NewsGothic 8 pts dark blue bold italic

Utopic Black  48 red
undlne            Times Rmn 12,  black bold italic

     Times 24, cyan bold underline
```

Arial MT 24 points blue bold & italic

Brush Script 18 points red bold

Courier New 48
pts purple italic

Perpetua 10 pts gold bold

Freestyle 14 points green
underline

Symbol 15 yellow bold

NewsGoth 8 pts dark blue bold italic

Utopic Black 48 red
undine

Times Rmn 12, black bold italic

Times 24, cyan bold underline

9.2.7 Output HiJaak for Windows

9.2.8 Output cgm2draw/IslandDraw

TimesOkeeffe all fonts

Arial MT 24 points blue bold & italic

TimesBrush Script 18 points red bold

Helvetica 36 points Yel
strikeout wrdwarp

*Courier New 48
pts purple italic*

TimesPerpetua 10 pts gold bolld

Freestyle 14 points green
underline

Time New roman 20 pts light blue normal

TimesLetterGothic 16 pts light
Timesgrn strikeout

Symbol 15 yellow bold

TimesNewsGothic 8 pts dark blue bold italic

TimesUtopic Black 48 red
Timesundlne

Times Rmn 12, black bold italic

Times 24, cyan bold underline

9.2.9 Output IslandDraw

Okeeffe all fonts

Arial MT 24 points blue bold & italic

Brush Script 18 points red bold

Helvetica 36 points Yel

strikeout wrdwarp

Courier New 48

pts purple italic

Perpetua 10 pts gold bold

Freestyle 14 points green
underline

Time New roman 20 pts light blue normal

LetterGothic 16 pts light
grn strikeout

Symbol 15 yellow bold

Utopic Black 48 red

undlne

Times Rmn 12, black bold italic

Times 24, cyan bold underline

9.2.10   Output Ventura Publisher

★✳❄✿❀❁❃ ✿●● ❄▢■▼▲

Arial MT 24 points blue bold & italic

Brush Script 18 points red bold

Helvetica 36 points Yel

strikeout wrdwarp

Courier New 48

pts purple italic

Perpetua 10 pts gold bold

Freestyle 14 points green
underline

Time New roman 20 pts light blue normal

LetterGothic 16 pts light
grn strikeout

Symbol 15 yellow bold

NewsGothic 8 pts dark blue bold italic

Utopic Black 48 red

undlne

Times Rmn 12, black bold italic

Times 24, cyan bold underline

9.3 File Three

9.3.1 Parser Log MetaCheck

```
MetaCheck Version 2.05 -- CGM/MIL-D-28003 Conformance Analyzer
Copyright 1988-91 CGM Technology Software
Execution Date: 07/31/93     Time:  12:17:22

Metafile Examined    : i:\9375\ok-objs1.cgm

Pictures Examined    : All
Elements Examined    : All
Bytes    Examined    : All


======================= Trace Report =========================

Tracing not selected.

============= CGM Conformance Violation Report ==============

Error 4002: Element Class/ID: 0/3   Offset: 322 octets Element No. 14
Required element, METAFILE ELEMENT LIST, is missing.

Bulletin 20029: Element Class/ID: 2/1   Offset: 334 octets Element No. 15
The Metric Scaling Factor, although unused, should be coded
as a floating point value.

Error 4011: Element Class/ID: 0/2   Offset: 14308 octets Element No. 490
The following elements appear in this CGM and should be indicated in the
METAFILE ELEMENT LIST:
    METAFILE DESCRIPTION
    VDC TYPE
    INTEGER PRECISION
    REAL PRECISION
    INDEX PRECISION
    COLOUR PRECISION
    COLOUR INDEX PRECISION
    MAXIMUM COLOUR INDEX
    COLOUR VALUE EXTENT
    FONT LIST
    SCALING MODE
    COLOUR SELECTION MODE
    LINE WIDTH SPECIFICATION MODE
    MARKER SIZE SPECIFICATION MODE
    EDGE WIDTH SPECIFICATION MODE
```

VDC EXTENT
TRANSPARENCY
POLYLINE
POLYMARKER
TEXT
POLYGON
RECTANGLE
LINE TYPE
LINE WIDTH
LINE COLOUR
MARKER TYPE
MARKER SIZE
MARKER COLOUR
TEXT FONT INDEX
TEXT COLOUR
CHARACTER HEIGHT
CHARACTER ORIENTATION
TEXT ALIGNMENT
INTERIOR STYLE
FILL COLOUR
HATCH INDEX
EDGE TYPE
EDGE WIDTH
EDGE COLOUR
EDGE VISIBILITY
COLOUR TABLE
APPLICATION DATA

========== CALS CGM Profile (MIL-D-28003) Report ============

Error 6508: Element Class/ID: 1/13   Offset: 16 octets Element No. 2
The FONT LIST element is invalid; it may not contain
more than 4 font names.

Error 6509: Element Class/ID: 1/13   Offset: 16 octets Element No. 2
Invalid list parameters; each of the Font Names in the FONT LIST element
must be among the Font Names allowed by the Profile.

Error 6501: Element Class/ID: 1/2   Offset: 240 octets Element No. 4
The METAFILE DESCRIPTION string is invalid; it lacks the phrase
"MIL-D-28003/BASIC-1" required by the Profile.

Error 8511: Element Class/ID: 5/34   Offset: 370 octets Element No. 22
Too many color table entry specifications; no more than
256 color table entries may be specified.

Error 6515: Element Class/ID: 3/4   Offset: 1142 octets Element No. 23

The Transparency Indicator is invalid; it must be 1 (on).

Error 6525: Element Class/ID: 5/24   Offset: 1308 octets Element No. 40
The Hatch Index is invalid; it must have a value between 1 and 6
(values allowed by the CGM standard) or have a value in the set
{-11401..-11407, -11409..-11418} (values allowed by the Profile).

Error 6525: Element Class/ID: 5/24   Offset: 2498 octets Element No. 49
The Hatch Index is invalid; it must have a value between 1 and 6
(values allowed by the CGM standard) or have a value in the set
{-11401..-11407, -11409..-11418} (values allowed by the Profile).

Error 6525: Element Class/ID: 5/24   Offset: 2524 octets Element No. 54
The Hatch Index is invalid; it must have a value between 1 and 6
(values allowed by the CGM standard) or have a value in the set
{-11401..-11407, -11409..-11418} (values allowed by the Profile).

Error 6517: Element Class/ID: 5/2   Offset: 3498 octets Element No. 68
The Line Type is invalid; it must either have a value between 1 and 5
(values allowed by the CGM standard) or have a value between -11301 and
-11310 (values allowed by the Profile).

Error 6517: Element Class/ID: 5/2   Offset: 3570 octets Element No. 79
The Line Type is invalid; it must either have a value between 1 and 5
(values allowed by the CGM standard) or have a value between -11301 and
-11310 (values allowed by the Profile).

Error 6525: Element Class/ID: 5/24   Offset: 4386 octets Element No. 167
The Hatch Index is invalid; it must have a value between 1 and 6
(values allowed by the CGM standard) or have a value in the set
{-11401..-11407, -11409..-11418} (values allowed by the Profile).

Error 6525: Element Class/ID: 5/24   Offset: 4420 octets Element No. 172
The Hatch Index is invalid; it must have a value between 1 and 6
(values allowed by the CGM standard) or have a value in the set
{-11401..-11407, -11409..-11418} (values allowed by the Profile).

Error 6519: Element Class/ID: 5/6   Offset: 5518 octets Element No. 262
The Marker Type is invalid; it must have a value between 1 and 5.

================ Conformance Summary Report ================

MetaCheck Version 2.05 -- CGM/MIL-D-28003 Conformance Analyzer
Copyright 1988-91 CGM Technology Software
Execution Date: 07/31/93   Time: 12:17:26

Name of CGM under test: i:\9375\ok-objs1.cgm

Encoding   : Binary

Pictures Examined   : All
Elements Examined   : All
Bytes   Examined   : All

BEGIN METAFILE string : "OK-OBJS1.CGM"
METAFILE DESCRIPTION : "Freelance Metafile Version 2.1"

Picture 1 starts at octet offset 322; string contains: "PICTURE 1"

Application data elements encountered in CGM
Private values encountered in CGM

Conformance Summary : This file is not a conforming CGM.

                        Consequently, it does not meet the
                        CALS CGM Profile (MIL-D-28003).

Summary of Testing Performed and Errors Found:

        1 Pictures Tested
      490 Elements Tested
    14310 Octets Tested

      0 Illegal CGM Elements   1000 -   1999
      0 Incorrect CGM Element Lengths   2000 -   2999
      0 CGM State Errors   3000 -   3499
      2 Required CGM Elements Missing or Wrong   4000 -   4499
      0 CGM Parameter Values Out of Range   6000 -   6499
      0 CGM Structure Errors   7000 -   7499
      2   ***   CGM Errors Found (total)   ***

      0 Profile State Errors   3500 -   3999
      0 Illegal Profile Elements   4500 -   4999
     12 Profile Parameter Values Out of Range   6500 -   6999
      1 Profile Data Limits Exceeded   8500 -   8999
      0 Other Profile Constraints Violated   9500 -   9999
     13   *** Profile Violations Found (total) ***

      1 Warnings (Advisory Remarks)   20000 - 20999

     11 distinct errors and warnings were reported.

================= End of Conformance Report ==================

43

9.3.2   validcgm Log

```
Analysis for file ok-objs1.cgm using table table
MILSPEC 28003 error: more than 4 fonts
MILSPEC 28003 error: illegal font name  Arial MT
MILSPEC 28003 error: illegal font name  Arial MT Bold
MILSPEC 28003 error: illegal font name  Arial MT Italic
MILSPEC 28003 error: illegal font name  Arial MT Bold Italic
MILSPEC 28003 error: illegal font name  TimesNewRomanPS
MILSPEC 28003 error: illegal font name  TimesNewRomanPS Bold
MILSPEC 28003 error: illegal font name  TimesNewRomanPS Italic
MILSPEC 28003 error: illegal font name  TimesNewRomanPS Bold Italic
MILSPEC 28003 error: illegal font name  BrushScript
MILSPEC 28003 error: illegal font name  GillSans
 (2, 16)            (1, 13, 216)    Font List
                                    "Arial MT"
                                    "Arial MT Bold"
                                    "Arial MT Italic"
                                    "Arial MT Bold Italic"
                                    "TimesNewRomanPS"
                                    "TimesNewRomanPS Bold"
                                    "TimesNewRomanPS Italic"
                                    "TimesNewRomanPS Bold Italic"
                                    "BrushScript"
                                    "GillSans"
MILSPEC 28003 error: descriptor doesn't contain MIL-D-28003/BASIC-1
 (4, 240)           (1, 2, 32)      Metafile Description "Freelance Metafile
Version 2.1"
MILSPEC 28003 error: illegal color table
more colour entries than max. color index
 (22, 370)          (5, 34, 768)    Colour Table begin 1, 255 entries
                                    (49, 37, 30)
                                    (63, 38, 32)
                                    (50, 38, 6)
                                    (50, 50, 24)
                                    (24, 38, 12)
                                    (23, 38, 24)
                                    (21, 37, 36)

                <<<<< PART OF LOG FILE REMOVED HERE >>>>>

                                    (87, 87, 100)
                                    (90, 87, 100)
                                    (94, 87, 100)
                                    (100, 87, 100)
                                    (100, 87, 96)
```

```
                              (100, 87, 90)
MILSPEC 28003 error: transparency not on
(23, 1142)        (3, 4, 2)        Transparency OFF
MILSPEC 28003 error: illegal hatch index
(40, 1308)        (5, 24, 2)       Hatch Index -14
MILSPEC 28003 error: illegal hatch index
(49, 2498)        (5, 24, 2)       Hatch Index -13
MILSPEC 28003 error: illegal hatch index
(54, 2524)        (5, 24, 2)       Hatch Index -13
MILSPEC 28003 error: illegal line type
(68, 3498)        (5, 2, 2)        Line Type unknown: -1
MILSPEC 28003 error: illegal line type
(79, 3570)        (5, 2, 2)        Line Type unknown: -1
MILSPEC 28003 error: illegal hatch index
(167, 4386)       (5, 24, 2)       Hatch Index -13
MILSPEC 28003 error: illegal hatch index
(172, 4420)       (5, 24, 2)       Hatch Index -14
MILSPEC 28003 error: illegal marker type
(262, 5518)       (5, 6, 2)        Marker Type -9
(0, 1) occurred 1 time
(0, 1) was not in the element list
(0, 2) occurred 1 time
(0, 2) was not in the element list
(0, 3) occurred 1 time
(0, 3) was not in the element list
(0, 4) occurred 1 time
(0, 4) was not in the element list
(0, 5) occurred 1 time
(0, 5) was not in the element list
(1, 1) occurred 1 time
(1, 1) was not in the element list
(1, 2) occurred 1 time
(1, 2) was not in the element list
(1, 3) occurred 1 time
(1, 3) was not in the element list
(1, 4) occurred 1 time
(1, 4) was not in the element list
(1, 5) occurred 1 time
(1, 5) was not in the element list
(1, 6) occurred 1 time
(1, 6) was not in the element list
(1, 7) occurred 1 time
(1, 7) was not in the element list
(1, 8) occurred 1 time
(1, 8) was not in the element list
(1, 9) occurred 1 time
(1, 9) was not in the element list
```
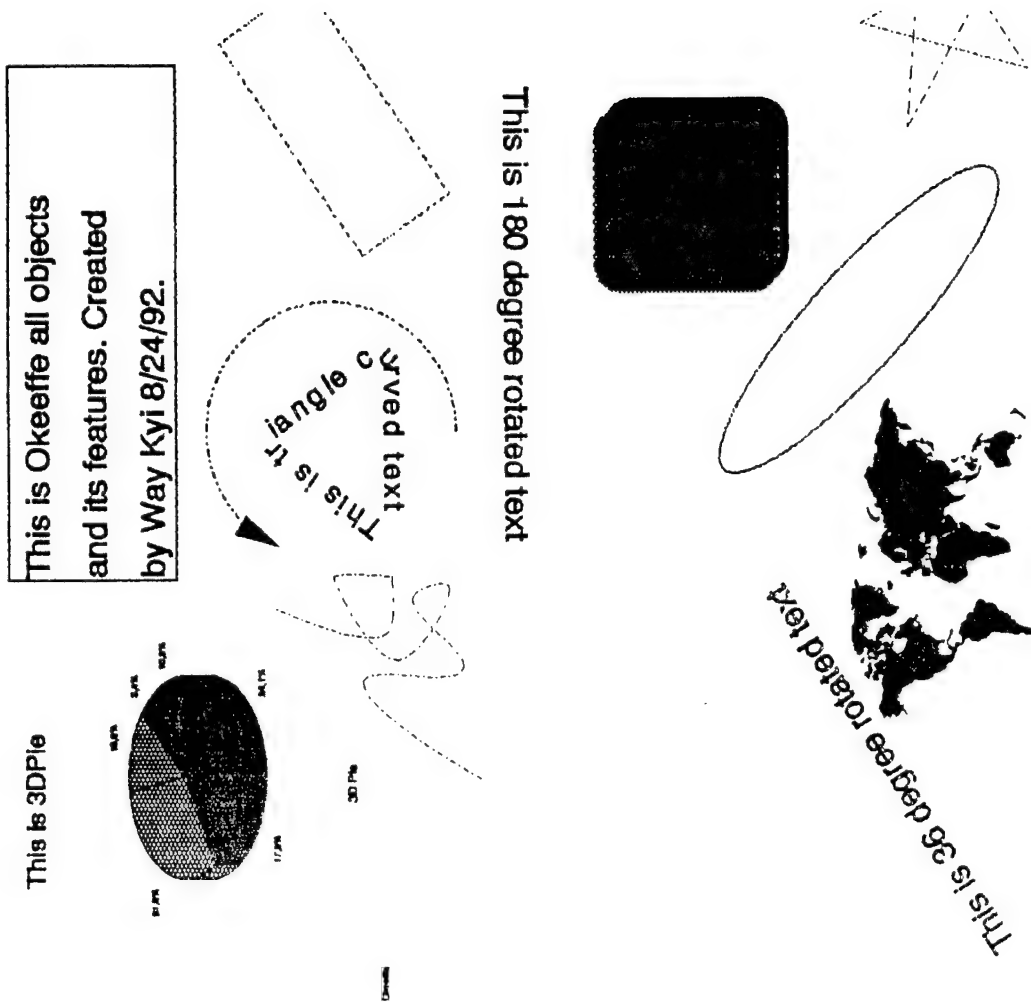
```
(1, 10) occurred 1 time
(1, 10) was not in the element list
(1, 11) never occurred, required by standard B
(1, 13) occurred 1 time
(1, 13) was not in the element list
(2, 1) occurred 1 time
(2, 1) was not in the element list
(2, 2) occurred 1 time
(2, 2) was not in the element list
(2, 3) occurred 1 time
(2, 3) was not in the element list
(2, 4) occurred 1 time
(2, 4) was not in the element list
(2, 5) occurred 1 time
(2, 5) was not in the element list
(2, 6) occurred 1 time
(2, 6) was not in the element list
(2, 7) never occurred, required by standard B
(3, 4) occurred 2 times
(3, 4) was not in the element list
(4, 1) occurred 200 times
(4, 1) was not in the element list
(4, 3) occurred 3 times
(4, 3) was not in the element list
(4, 4) occurred 42 times
(4, 4) was not in the element list
(4, 7) occurred 74 times
(4, 7) was not in the element list
(4, 11) occurred 5 times
(4, 11) was not in the element list
(5, 2) occurred 9 times
(5, 2) was not in the element list
(5, 3) occurred 10 times
(5, 3) was not in the element list
(5, 4) occurred 5 times
(5, 4) was not in the element list
(5, 6) occurred 2 times
(5, 6) was not in the element list
(5, 7) occurred 1 time
(5, 7) was not in the element list
(5, 8) occurred 2 times
(5, 8) was not in the element list
(5, 10) occurred 6 times
(5, 10) was not in the element list
(5, 14) occurred 5 times
(5, 14) was not in the element list
(5, 15) occurred 6 times
```
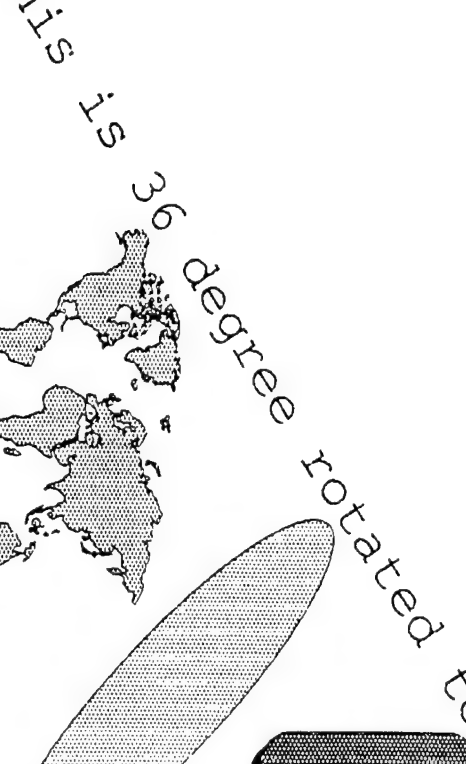
```
(5, 15) was not in the element list
(5, 16) occurred 20 times
(5, 16) was not in the element list
(5, 18) occurred 1 time
(5, 18) was not in the element list
(5, 22) occurred 11 times
(5, 22) was not in the element list
(5, 23) occurred 20 times
(5, 23) was not in the element list
(5, 24) occurred 5 times
(5, 24) was not in the element list
(5, 27) occurred 4 times
(5, 27) was not in the element list
(5, 28) occurred 18 times
(5, 28) was not in the element list
(5, 29) occurred 14 times
(5, 29) was not in the element list
(5, 30) occurred 1 time
(5, 30) was not in the element list
(5, 34) occurred 1 time
(5, 34) was not in the element list
(7, 2) occurred 1 time
(7, 2) was not in the element list
```
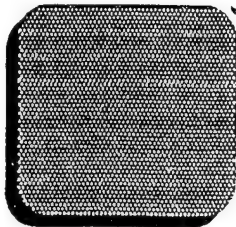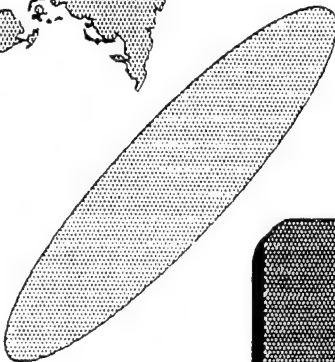
9.3.3 Output Designer

This is Okeeffe all objects and its features. Created by Way Kyi 8/24/92.

This is 180 degree rotated text

This is triangle

Curved text

This is 3DPie

3D Pie

This is 36 degree rotated text

9.3.4 Output Freelance

This is 36 degree rotated text

This is 180 degree rotated text

This is 3DPie

This is triangle

Curved text

9.3.5 Output Harvard Graphics

This is 3DPie

This is Okeeffe all objects
and its features. Created
by Way Kyi 8/24/92.

9.3.6   Output HiJaak for Windows

9.3.7 Output cgm2draw/IslandDraw

This is 3DPie

This is Okeeffe all objects and its features. Created by Way Kyi 8/24/92.

13,8

3,4

31,0

10,3

24,1

17,2

3D Pie

Okeeffe

This is triangle curved text

This is 180 degree rotated text

This is 36 degree rotated text

9.3.8 Output IslandDraw

This is 3DPie

This is Okeeffe all objects
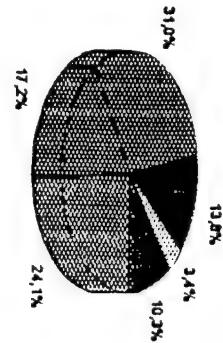and its features. Created
by Way Kyi 8/24/92.

This is triangle curved text
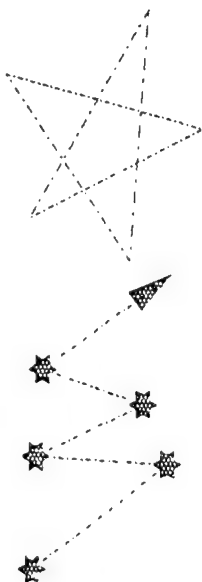
This is 180 degree rotated text

This is 36 degree rotated text

9.3.9 Output Ventura Publisher

This is 3DPie

This is Okeeffe all objects
and its features. Created
by Way Kyi 8/24/92.

r

This is 36 degree rotated text
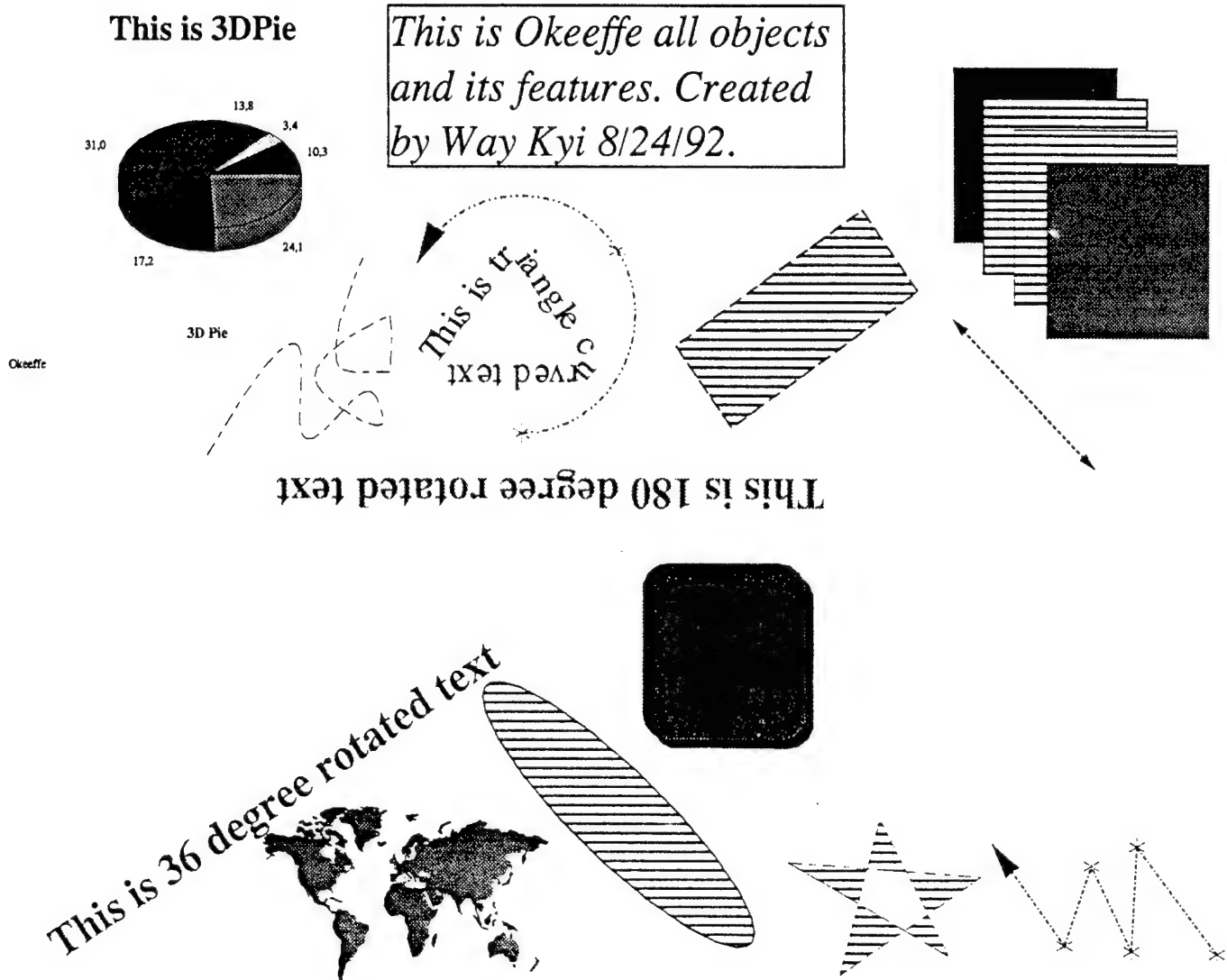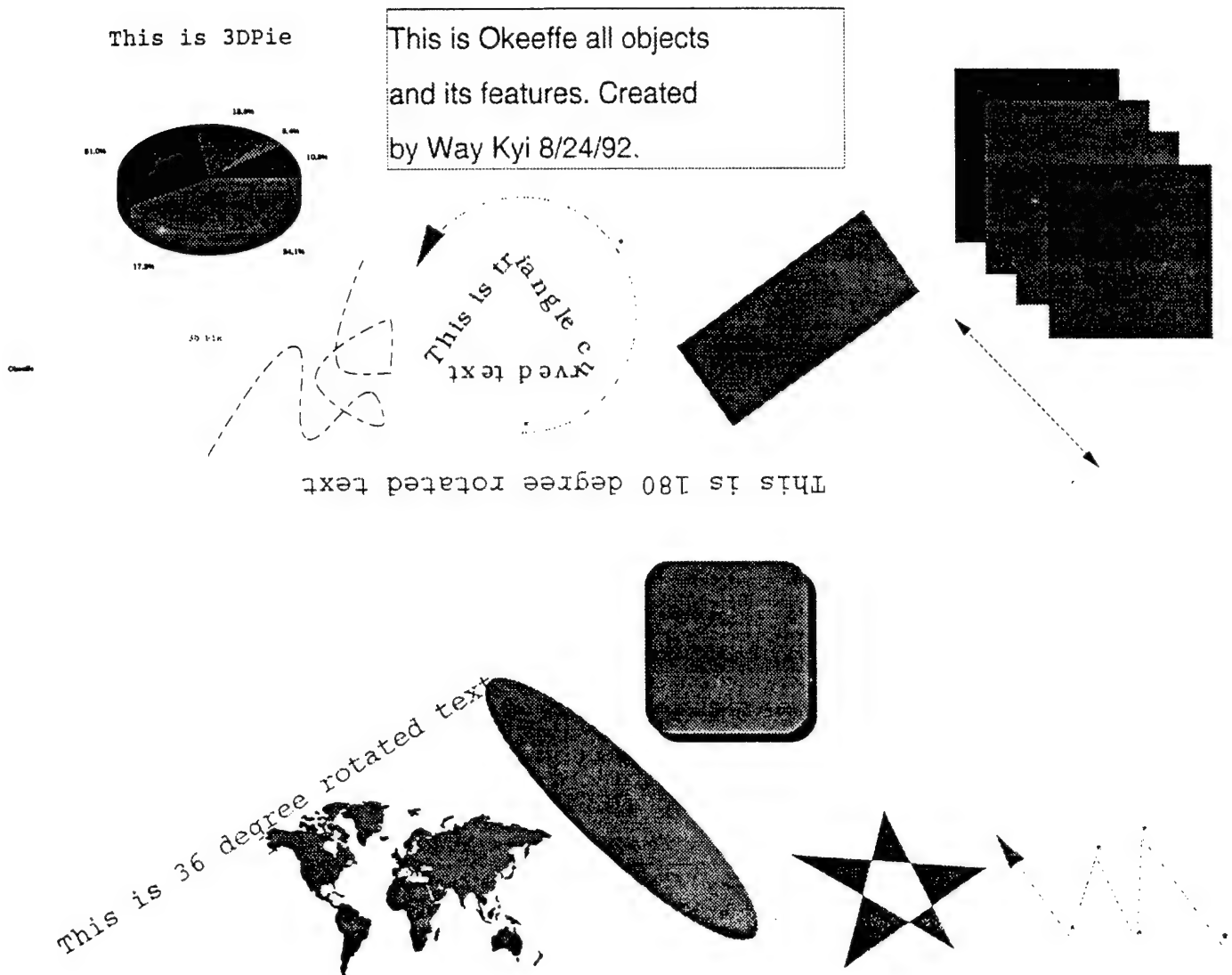
9.4   File Four

9.4.1   Parser Log MetaCheck

```
MetaCheck Version 2.05 -- CGM/MIL-D-28003 Conformance Analyzer
Copyright 1988-91 CGM Technology Software
Execution Date: 07/31/93      Time:  12:17:40

Metafile Examined     : i:\9375\ok-style.cgm

Pictures Examined     : All
Elements Examined     : All
Bytes     Examined    : All


======================= Trace Report =========================

Tracing not selected.

============= CGM Conformance Violation Report ==============

Error 4002: Element Class/ID: 0/3    Offset: 322 octets Element No. 14
Required element, METAFILE ELEMENT LIST, is missing.

Bulletin 20029: Element Class/ID: 2/1    Offset: 334 octets Element No. 15
The Metric Scaling Factor, although unused, should be coded
as a floating point value.

Error 4011: Element Class/ID: 0/2    Offset: 19744 octets Element No. 1487
The following elements appear in this CGM and should be indicated in the
METAFILE ELEMENT LIST:
     METAFILE DESCRIPTION
     VDC TYPE
     INTEGER PRECISION
     REAL PRECISION
     INDEX PRECISION
     COLOUR PRECISION
     COLOUR INDEX PRECISION
     MAXIMUM COLOUR INDEX
     COLOUR VALUE EXTENT
     FONT LIST
     SCALING MODE
     COLOUR SELECTION MODE
     LINE WIDTH SPECIFICATION MODE
     MARKER SIZE SPECIFICATION MODE
     EDGE WIDTH SPECIFICATION MODE
```

        VDC EXTENT
        TRANSPARENCY
        POLYLINE
        POLYMARKER
        TEXT
        POLYGON
        RECTANGLE
        ELLIPSE
        LINE TYPE
        LINE WIDTH
        LINE COLOUR
        MARKER TYPE
        MARKER SIZE
        MARKER COLOUR
        TEXT FONT INDEX
        TEXT COLOUR
        CHARACTER HEIGHT
        CHARACTER ORIENTATION
        TEXT ALIGNMENT
        INTERIOR STYLE
        FILL COLOUR
        HATCH INDEX
        EDGE TYPE
        EDGE WIDTH
        EDGE COLOUR
        EDGE VISIBILITY
        COLOUR TABLE
        APPLICATION DATA

========== CALS CGM Profile (MIL-D-28003) Report ============

Error 6508: Element Class/ID: 1/13   Offset: 16 octets Element No. 2
The FONT LIST element is invalid; it may not contain
more than 4 font names.

Error 6509: Element Class/ID: 1/13   Offset: 16 octets Element No. 2
Invalid list parameters; each of the Font Names in the FONT LIST element
must be among the Font Names allowed by the Profile.

Error 6501: Element Class/ID: 1/2   Offset: 240 octets Element No. 4
The METAFILE DESCRIPTION string is invalid; it lacks the phrase
"MIL-D-28003/BASIC-1" required by the Profile.

Error 8511: Element Class/ID: 5/34   Offset: 370 octets Element No. 22
Too many color table entry specifications; no more than
256 color table entries may be specified.

Error 6515: Element Class/ID: 3/4   Offset: 1142 octets Element No. 23
The Transparency Indicator is invalid; it must be 1 (on).

Error 6521: Element Class/ID: 5/10   Offset: 1208 octets Element No. 34
The Text Font Index value is invalid; it must not exceed 4.

Error 6525: Element Class/ID: 5/24   Offset: 1312 octets Element No. 48
The Hatch Index is invalid; it must have a value between 1 and 6
(values allowed by the CGM standard) or have a value in the set
{-11401..-11407, -11409..-11418} (values allowed by the Profile).

Error 6517: Element Class/ID: 5/2   Offset: 4496 octets Element No. 225
The Line Type is invalid; it must either have a value between 1 and 5
(values allowed by the CGM standard) or have a value between -11301 and
-11310 (values allowed by the Profile).

Error 6517: Element Class/ID: 5/2   Offset: 4546 octets Element No. 234
The Line Type is invalid; it must either have a value between 1 and 5
(values allowed by the CGM standard) or have a value between -11301 and
-11310 (values allowed by the Profile).

Error 6517: Element Class/ID: 5/2   Offset: 8104 octets Element No. 553
The Line Type is invalid; it must either have a value between 1 and 5
(values allowed by the CGM standard) or have a value between -11301 and
-11310 (values allowed by the Profile).

Error 6517: Element Class/ID: 5/2   Offset: 8814 octets Element No. 592
The Line Type is invalid; it must either have a value between 1 and 5
(values allowed by the CGM standard) or have a value between -11301 and
-11310 (values allowed by the Profile).

Error 6519: Element Class/ID: 5/6   Offset: 9070 octets Element No. 608
The Marker Type is invalid; it must have a value between 1 and 5.

Error 6525: Element Class/ID: 5/24   Offset: 9576 octets Element No. 672
The Hatch Index is invalid; it must have a value between 1 and 6
(values allowed by the CGM standard) or have a value in the set
{-11401..-11407, -11409..-11418} (values allowed by the Profile).

Error 6525: Element Class/ID: 5/24   Offset: 10496 octets Element No. 684
The Hatch Index is invalid; it must have a value between 1 and 6
(values allowed by the CGM standard) or have a value in the set
{-11401..-11407, -11409..-11418} (values allowed by the Profile).

Error 6527: Element Class/ID: 5/27   Offset: 10500 octets Element No. 685
The Edge Type is invalid; it must have a value between 1 and 5.

Error 6517: Element Class/ID: 5/2   Offset: 12198 octets Element No. 817
The Line Type is invalid; it must either have a value between 1 and 5
(values allowed by the CGM standard) or have a value between -11301 and
-11310 (values allowed by the Profile).

Error 6517: Element Class/ID: 5/2   Offset: 12248 octets Element No. 826
The Line Type is invalid; it must either have a value between 1 and 5
(values allowed by the CGM standard) or have a value between -11301 and
-11310 (values allowed by the Profile).

Error 6519: Element Class/ID: 5/6   Offset: 13016 octets Element No. 896
The Marker Type is invalid; it must have a value between 1 and 5.

Error 6517: Element Class/ID: 5/2   Offset: 14008 octets Element No. 975
The Line Type is invalid; it must either have a value between 1 and 5
(values allowed by the CGM standard) or have a value between -11301 and
-11310 (values allowed by the Profile).

Error 6517: Element Class/ID: 5/2   Offset: 14058 octets Element No. 984
The Line Type is invalid; it must either have a value between 1 and 5
(values allowed by the CGM standard) or have a value between -11301 and
-11310 (values allowed by the Profile).

Error 6517: Element Class/ID: 5/2   Offset: 19342 octets Element No. 1448
The Line Type is invalid; it must either have a value between 1 and 5
(values allowed by the CGM standard) or have a value between -11301 and
-11310 (values allowed by the Profile).

Error 6517: Element Class/ID: 5/2   Offset: 19392 octets Element No. 1457
The Line Type is invalid; it must either have a value between 1 and 5
(values allowed by the CGM standard) or have a value between -11301 and
-11310 (values allowed by the Profile).

================= Conformance Summary Report =================

MetaCheck Version 2.05 -- CGM/MIL-D-28003 Conformance Analyzer
Copyright 1988-91 CGM Technology Software
Execution Date: 07/31/93   Time: 12:17:46

Name of CGM under test: i:\9375\ok-style.cgm
Encoding   : Binary

Pictures Examined   : All
Elements Examined   : All
Bytes   Examined   : All

BEGIN METAFILE string : "OK-STYLE.CGM"

METAFILE DESCRIPTION : "Freelance Metafile Version 2.1"

Picture 1 starts at octet offset 322; string contains: "PICTURE 1"

Application data elements encountered in CGM
Private values encountered in CGM

Conformance Summary : This file is not a conforming CGM.

                        Consequently, it does not meet the
                        CALS CGM Profile (MIL-D-28003).

Summary of Testing Performed and Errors Found:

        1 Pictures Tested
     1487 Elements Tested
    19746 Octets Tested

     0 Illegal CGM Elements   1000 -   1999
     0 Incorrect CGM Element Lengths   2000 -   2999
     0 CGM State Errors   3000 -   3499
     2 Required CGM Elements Missing or Wrong   4000 -   4499
     0 CGM Parameter Values Out of Range   6000 -   6499
     0 CGM Structure Errors   7000 -   7499
     2   ***   CGM Errors Found (total)   ***

     0 Profile State Errors   3500 -   3999
     0 Illegal Profile Elements   4500 -   4999
    21 Profile Parameter Values Out of Range   6500 -   6999
     1 Profile Data Limits Exceeded   8500 -   8999
     0 Other Profile Constraints Violated   9500 -   9999
    22   *** Profile Violations Found (total) ***

     1 Warnings (Advisory Remarks)   20000 - 20999

    13 distinct errors and warnings were reported.

================ End of Conformance Report ==================

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9.4.2 validcgm Log

```
Analysis for file ok-style.cgm using table table
MILSPEC 28003 error: more than 4 fonts
MILSPEC 28003 error: illegal font name  Arial MT
MILSPEC 28003 error: illegal font name  Arial MT Bold
MILSPEC 28003 error: illegal font name  Arial MT Italic
MILSPEC 28003 error: illegal font name  Arial MT Bold Italic
MILSPEC 28003 error: illegal font name  TimesNewRomanPS
MILSPEC 28003 error: illegal font name  TimesNewRomanPS Bold
MILSPEC 28003 error: illegal font name  TimesNewRomanPS Italic
MILSPEC 28003 error: illegal font name  TimesNewRomanPS Bold Italic
MILSPEC 28003 error: illegal font name  BrushScript
MILSPEC 28003 error: illegal font name  GillSans
 (2, 16)            (1, 13, 216)    Font List
                                    "Arial MT"
                                    "Arial MT Bold"
                                    "Arial MT Italic"
                                    "Arial MT Bold Italic"
                                    "TimesNewRomanPS"
                                    "TimesNewRomanPS Bold"
                                    "TimesNewRomanPS Italic"
                                    "TimesNewRomanPS Bold Italic"
                                    "BrushScript"
                                    "GillSans"
MILSPEC 28003 error: descriptor doesn't contain MIL-D-28003/BASIC-1
 (4, 240)           (1, 2, 32)      Metafile Description "Freelance Metafile
Version 2.1"
MILSPEC 28003 error: illegal color table
more colour entries than max. color index
 (22, 370)          (5, 34, 768)    Colour Table begin 1, 255 entries
                                    (49, 37, 30)
                                    (63, 38, 32)
                                    (50, 38, 6)
                                    (50, 50, 24)
                                    (24, 38, 12)
                                    (23, 38, 24)

                <<<<< PART OF LOG FILE REMOVED HERE >>>>>

                                    (100, 87, 100)
                                    (100, 87, 96)
                                    (100, 87, 90)
MILSPEC 28003 error: transparency not on
 (23, 1142)         (3, 4, 2)       Transparency OFF
MILSPEC 28003 error: illegal text font index
```
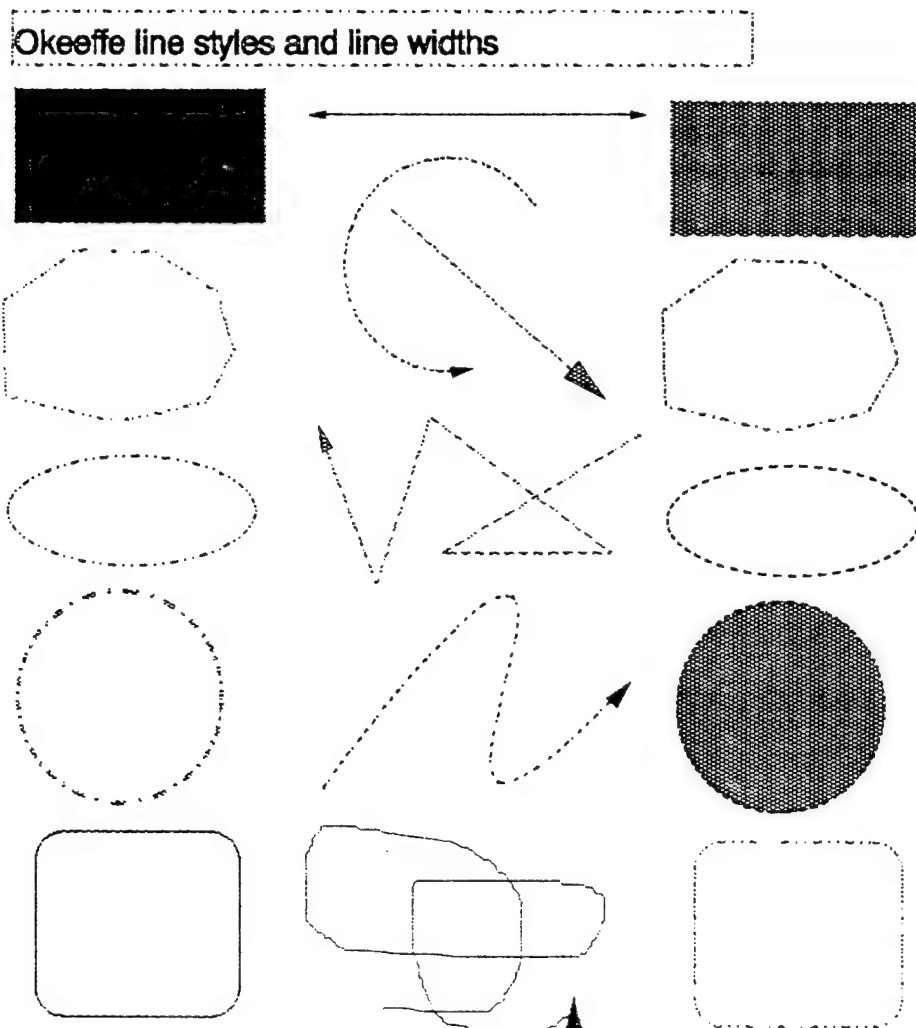
```
(34, 1208)        (5, 10, 2)     Text Font Index 14
MILSPEC 28003 error: illegal hatch index
(48, 1312)        (5, 24, 2)     Hatch Index -13
MILSPEC 28003 error: illegal line type
(225, 4496)       (5, 2, 2)      Line Type unknown: -1
MILSPEC 28003 error: illegal line type
(234, 4546)       (5, 2, 2)      Line Type unknown: -1
MILSPEC 28003 error: illegal line type
(553, 8104)       (5, 2, 2)      Line Type unknown: -1
MILSPEC 28003 error: illegal line type
(592, 8814)       (5, 2, 2)      Line Type unknown: -1
MILSPEC 28003 error: illegal marker type
(608, 9070)       (5, 6, 2)      Marker Type -1
MILSPEC 28003 error: illegal hatch index
(672, 9576)       (5, 24, 2)     Hatch Index -14
MILSPEC 28003 error: illegal hatch index
(678, 9640)       (5, 24, 2)     Hatch Index 6
MILSPEC 28003 error: illegal hatch index
(684, 10496)      (5, 24, 2)     Hatch Index -13
MILSPEC 28003 error: illegal edge type
(685, 10500)      (5, 27, 2)     Edge Type unknown: -2
MILSPEC 28003 error: illegal line type
(817, 12198)      (5, 2, 2)      Line Type unknown: -1
MILSPEC 28003 error: illegal line type
(826, 12248)      (5, 2, 2)      Line Type unknown: -1
MILSPEC 28003 error: illegal marker type
(896, 13016)      (5, 6, 2)      Marker Type -8
MILSPEC 28003 error: illegal line type
(975, 14008)      (5, 2, 2)      Line Type unknown: -1
MILSPEC 28003 error: illegal line type
(984, 14058)      (5, 2, 2)      Line Type unknown: -1
MILSPEC 28003 error: illegal line type
(1448, 19342)     (5, 2, 2)      Line Type unknown: -1
MILSPEC 28003 error: illegal line type
(1457, 19392)     (5, 2, 2)      Line Type unknown: -1
(0, 1) occurred 1 time
(0, 1) was not in the element list
(0, 2) occurred 1 time
(0, 2) was not in the element list
(0, 3) occurred 1 time
(0, 3) was not in the element list
(0, 4) occurred 1 time
(0, 4) was not in the element list
(0, 5) occurred 1 time
(0, 5) was not in the element list
(1, 1) occurred 1 time
(1, 1) was not in the element list
```
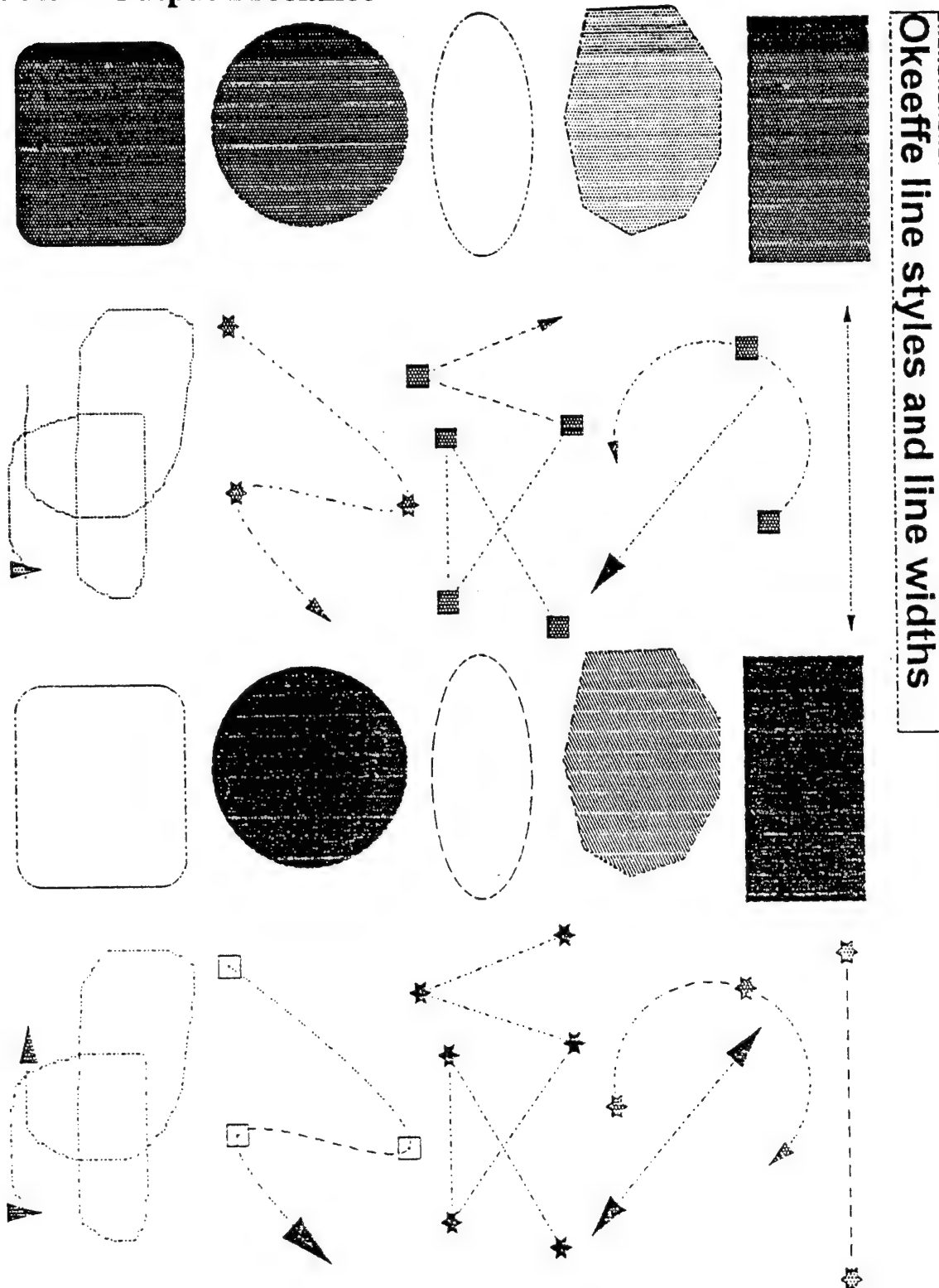
(1, 2) occurred 1 time
(1, 2) was not in the element list
(1, 3) occurred 1 time
(1, 3) was not in the element list
(1, 4) occurred 1 time
(1, 4) was not in the element list
(1, 5) occurred 1 time
(1, 5) was not in the element list
(1, 6) occurred 1 time
(1, 6) was not in the element list
(1, 7) occurred 1 time
(1, 7) was not in the element list
(1, 8) occurred 1 time
(1, 8) was not in the element list
(1, 9) occurred 1 time
(1, 9) was not in the element list
(1, 10) occurred 1 time
(1, 10) was not in the element list
(1, 11) never occurred, required by standard B
(1, 13) occurred 1 time
(1, 13) was not in the element list
(2, 1) occurred 1 time
(2, 1) was not in the element list
(2, 2) occurred 1 time
(2, 2) was not in the element list
(2, 3) occurred 1 time
(2, 3) was not in the element list
(2, 4) occurred 1 time
(2, 4) was not in the element list
(2, 5) occurred 1 time
(2, 5) was not in the element list
(2, 6) occurred 1 time
(2, 6) was not in the element list
(2, 7) never occurred, required by standard B
(3, 4) occurred 2 times
(3, 4) was not in the element list
(4, 1) occurred 1183 times
(4, 1) was not in the element list
(4, 3) occurred 13 times
(4, 3) was not in the element list
(4, 4) occurred 1 time
(4, 4) was not in the element list
(4, 7) occurred 55 times
(4, 7) was not in the element list
(4, 11) occurred 3 times
(4, 11) was not in the element list
(4, 17) occurred 2 times

```
(4, 17) was not in the element list
(5, 2) occurred 32 times
(5, 2) was not in the element list
(5, 3) occurred 32 times
(5, 3) was not in the element list
(5, 4) occurred 13 times
(5, 4) was not in the element list
(5, 6) occurred 6 times
(5, 6) was not in the element list
(5, 7) occurred 3 times
(5, 7) was not in the element list
(5, 8) occurred 7 times
(5, 8) was not in the element list
(5, 10) occurred 1 time
(5, 10) was not in the element list
(5, 14) occurred 1 time
(5, 14) was not in the element list
(5, 15) occurred 1 time
(5, 15) was not in the element list
(5, 16) occurred 1 time
(5, 16) was not in the element list
(5, 18) occurred 1 time
(5, 18) was not in the element list
(5, 22) occurred 12 times
(5, 22) was not in the element list
(5, 23) occurred 23 times
(5, 23) was not in the element list
(5, 24) occurred 7 times
(5, 24) was not in the element list
(5, 27) occurred 11 times
(5, 27) was not in the element list
(5, 28) occurred 30 times
(5, 28) was not in the element list
(5, 29) occurred 22 times
(5, 29) was not in the element list
(5, 30) occurred 1 time
(5, 30) was not in the element list
(5, 34) occurred 1 time
(5, 34) was not in the element list
(7, 2) occurred 1 time
(7, 2) was not in the element list
```
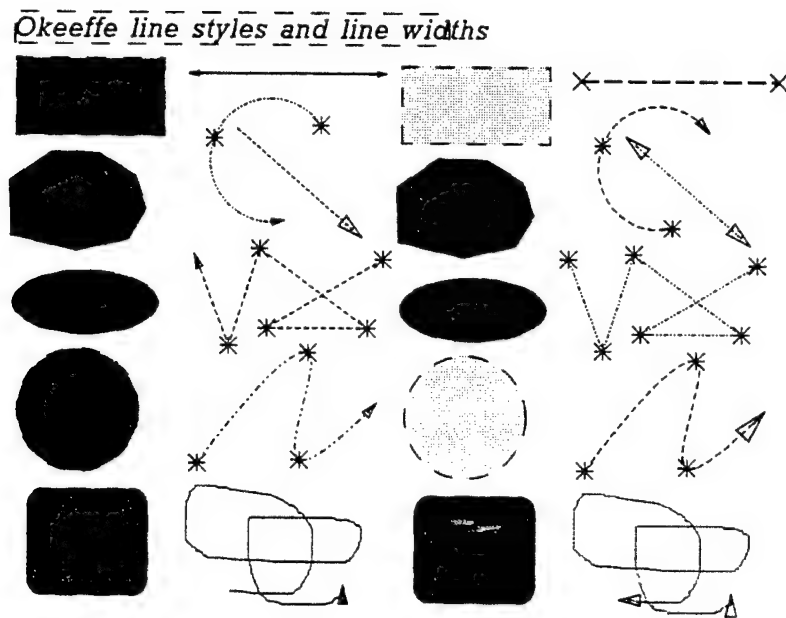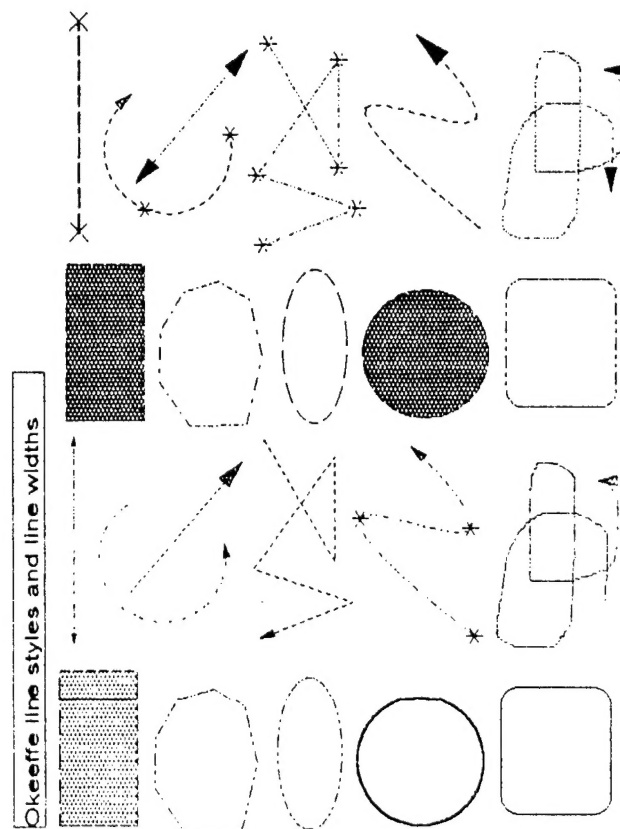
9.4.3 Output Designer

Okeeffe line styles and line widths

9.4.4 Output Freelance

Okeeffe line styles and line widths

9.4.5 Output Harvard Graphics

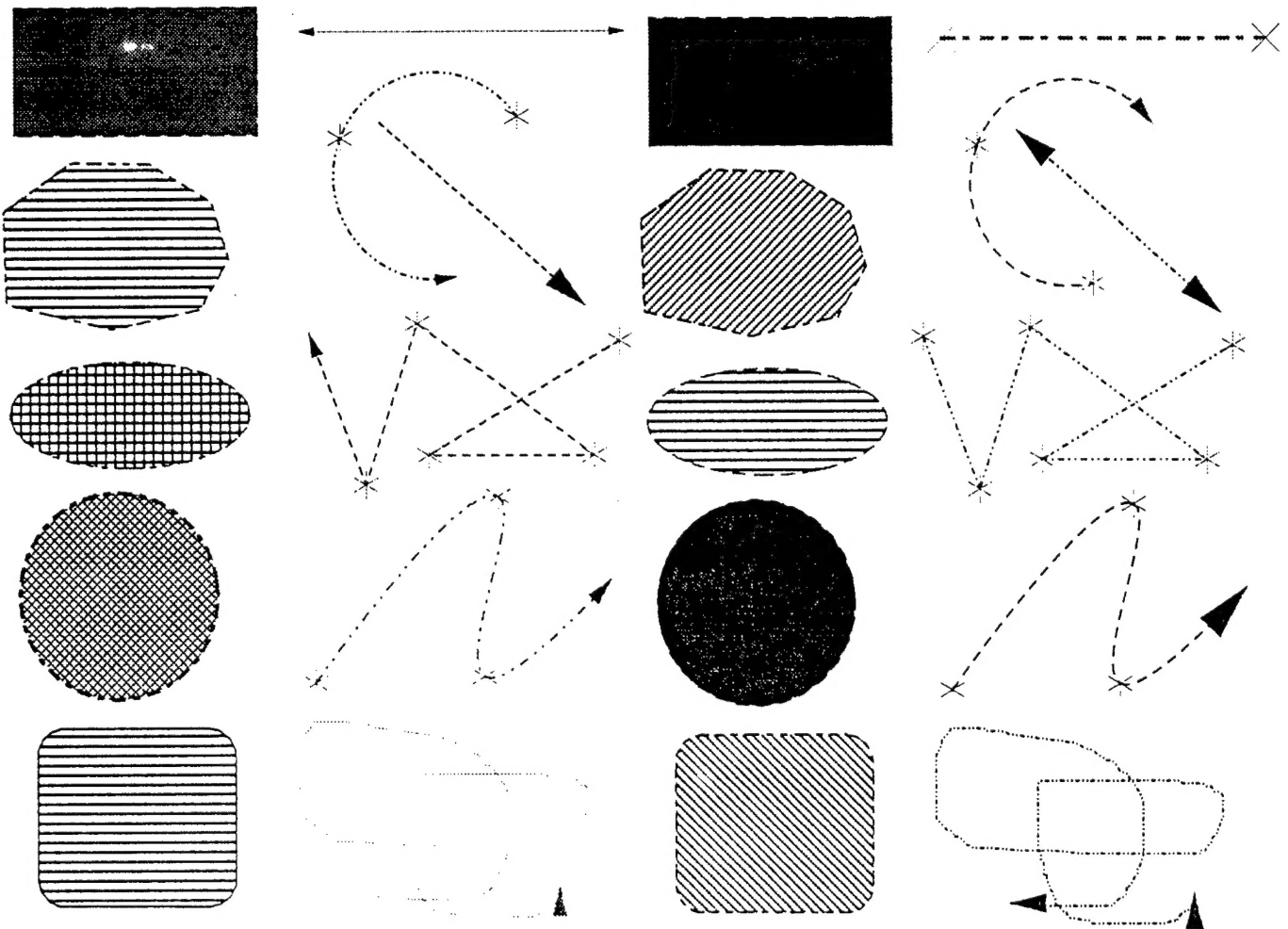Okeeffe line styles and line widths

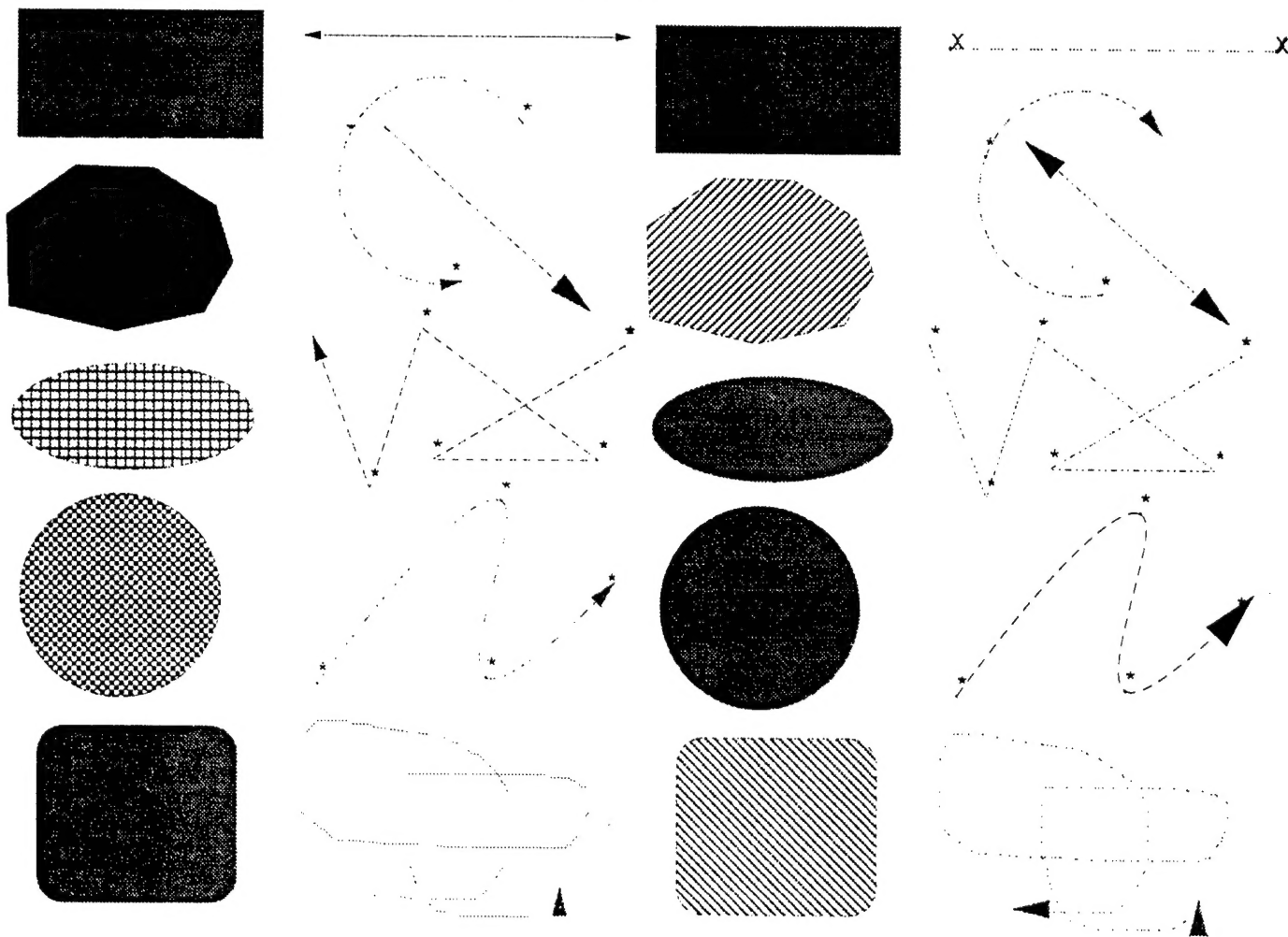## 9.4.6 Output HiJaak for Windows

9.4.7 Output cgm2draw/IslandDraw

TimesOkeeffe line styles and line widths

9.4.8   Output IslandDraw

Okeeffe line styles and line widths

9.4.9 Output Ventura Publisher

Okeeffe line styles and line widths